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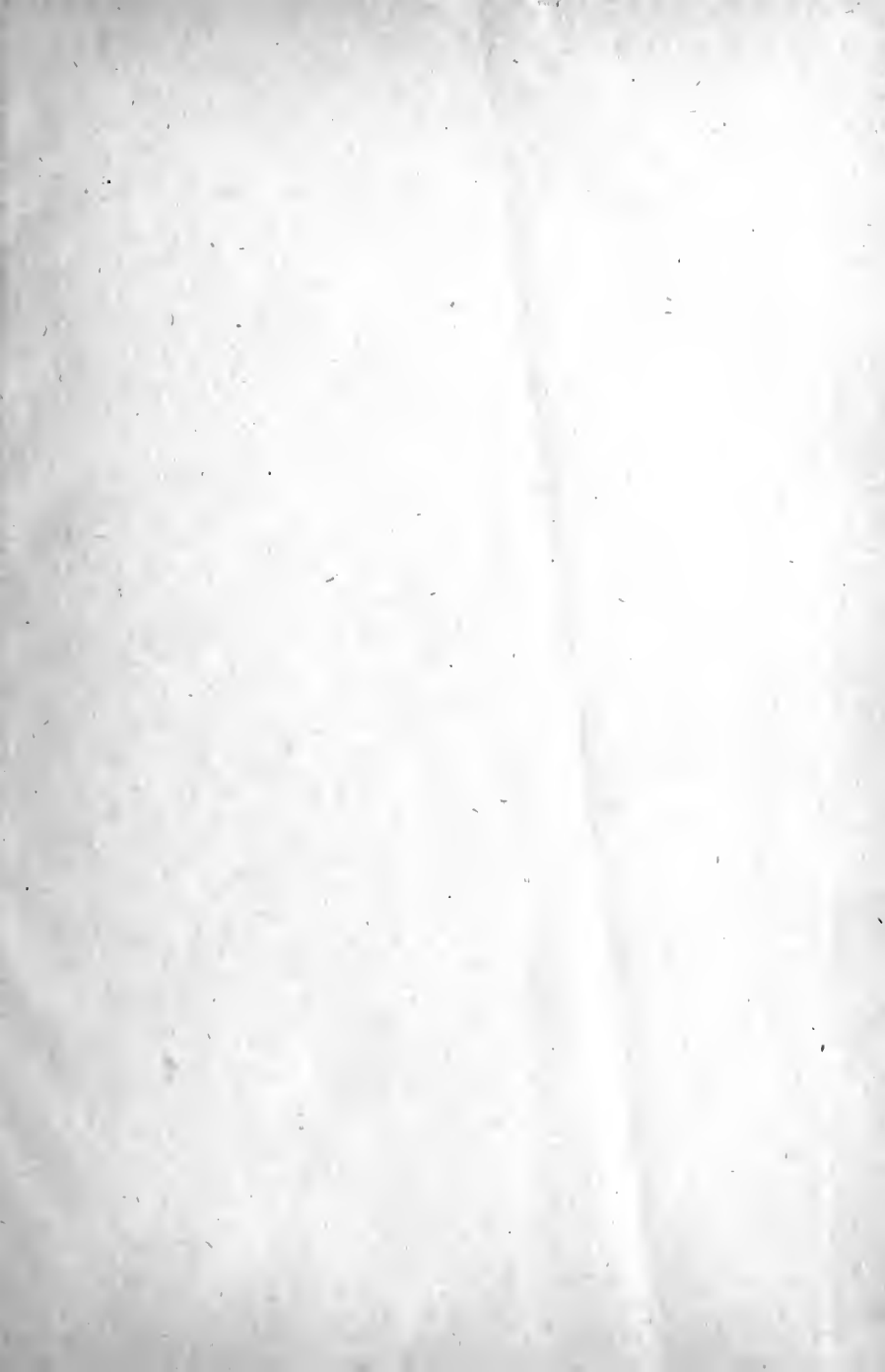


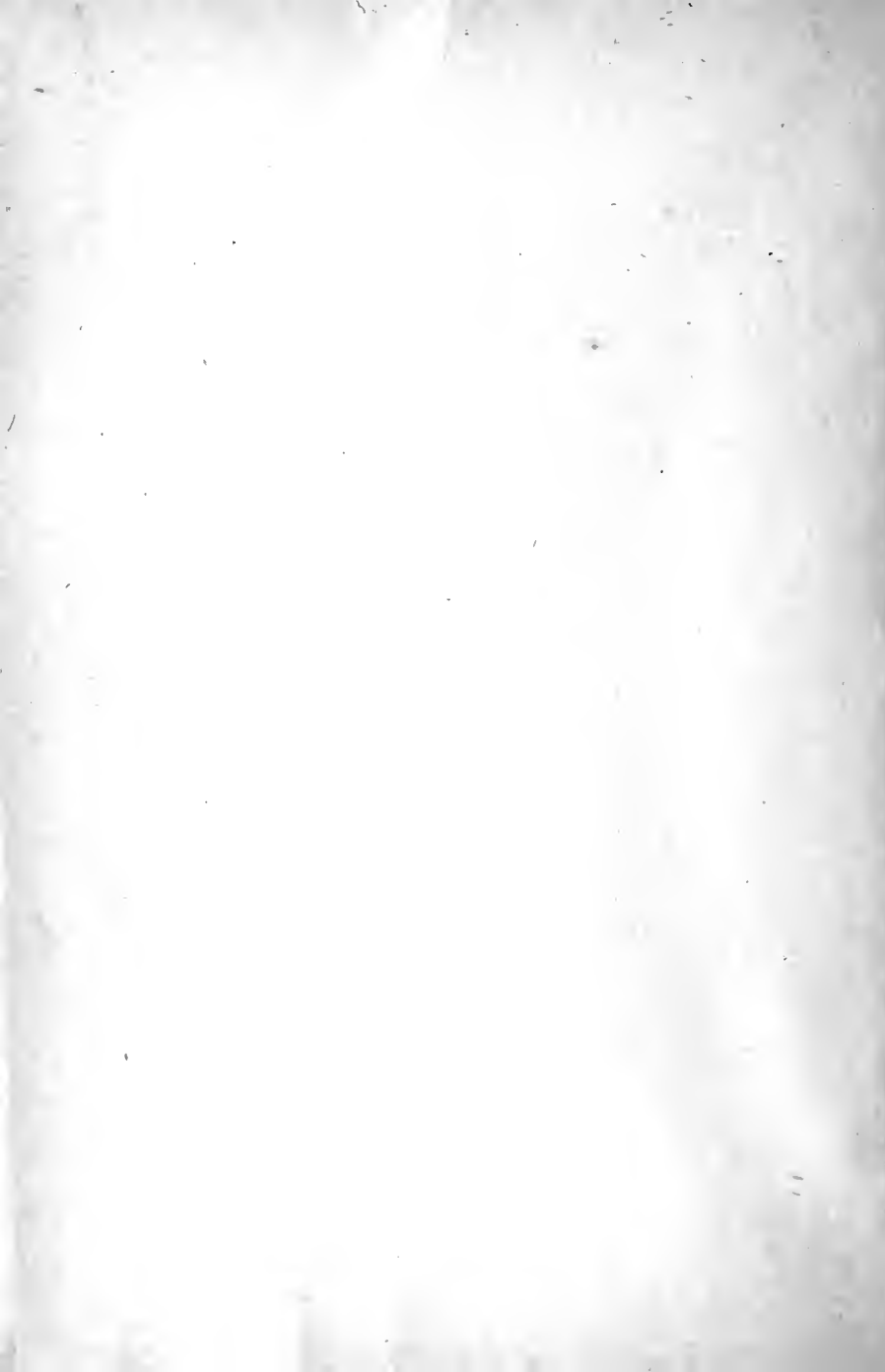
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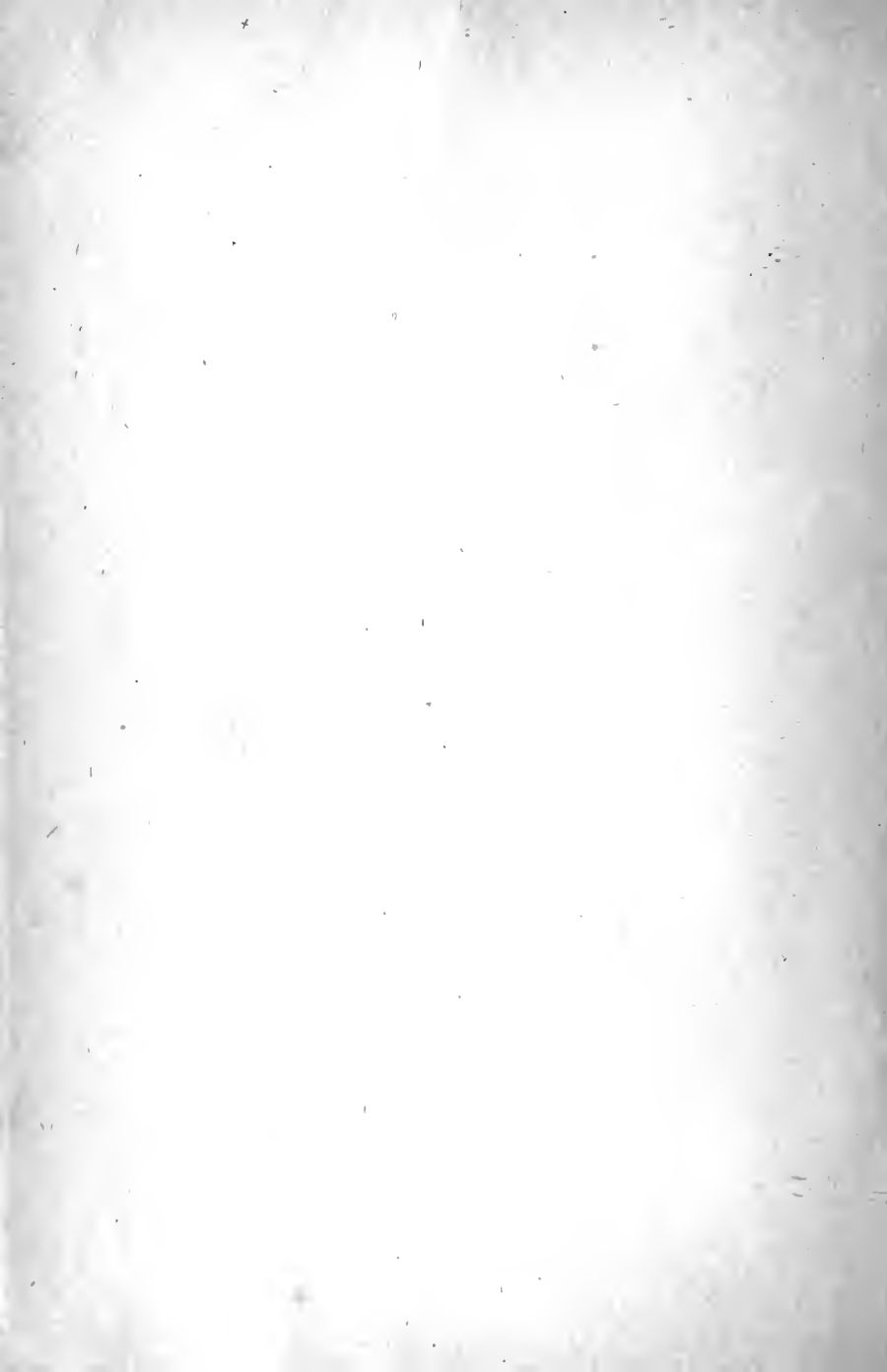
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*American Minute Men
of Today*

By
FRANCIS A. ADAMS

AMERICAN MINUTE MEN OF TODAY

Plans for National Preparedness
In All Branches of Service.

BY

FRANCIS A. ADAMS

Former Lieutenant 14th N. Y. Infantry, U. S. V., 1898.



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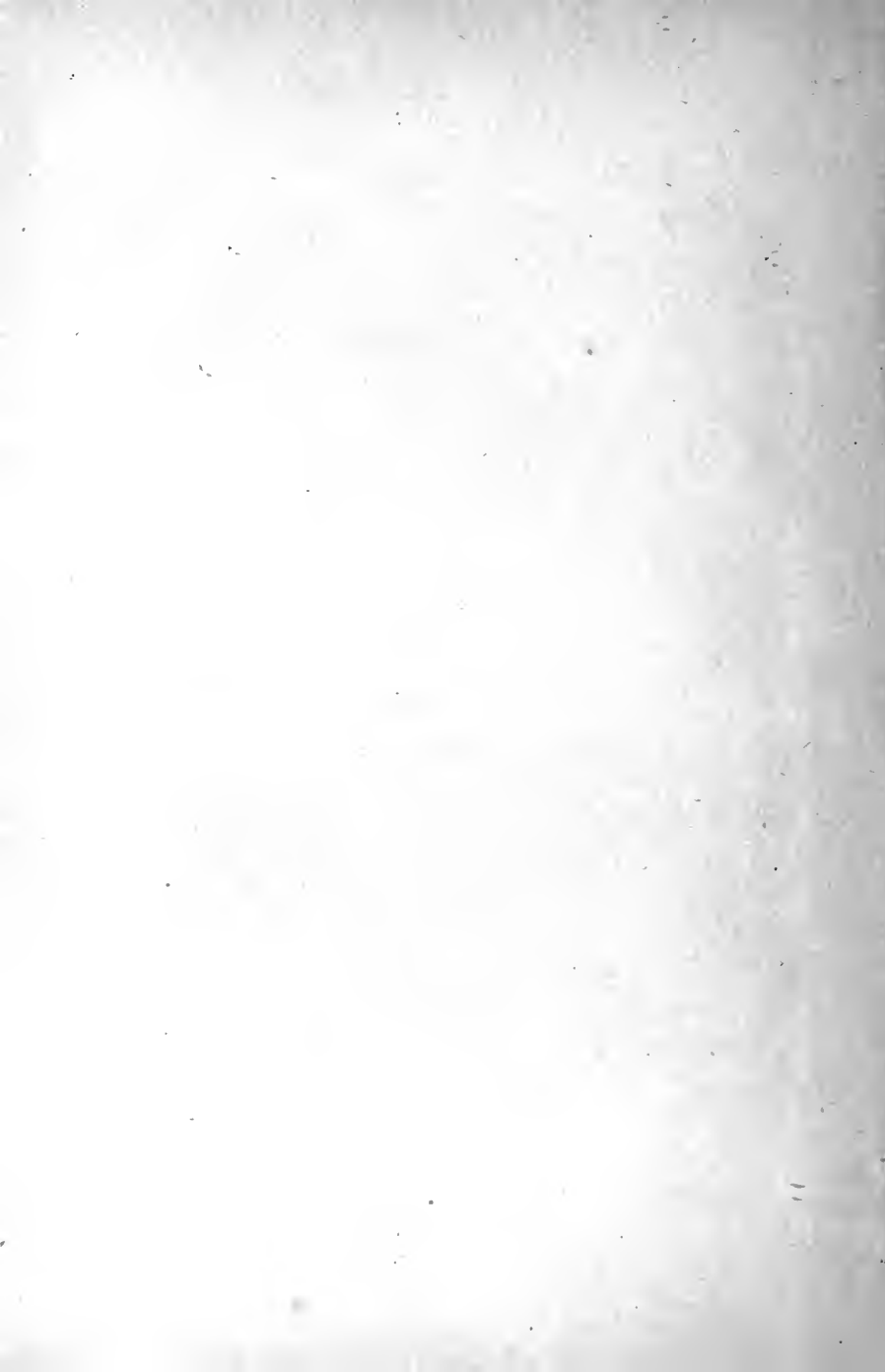
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Preface

"Give me liberty or give me death."—PATRICK HENRY.

"In time of peace prepare for war."—GEORGE WASHINGTON.

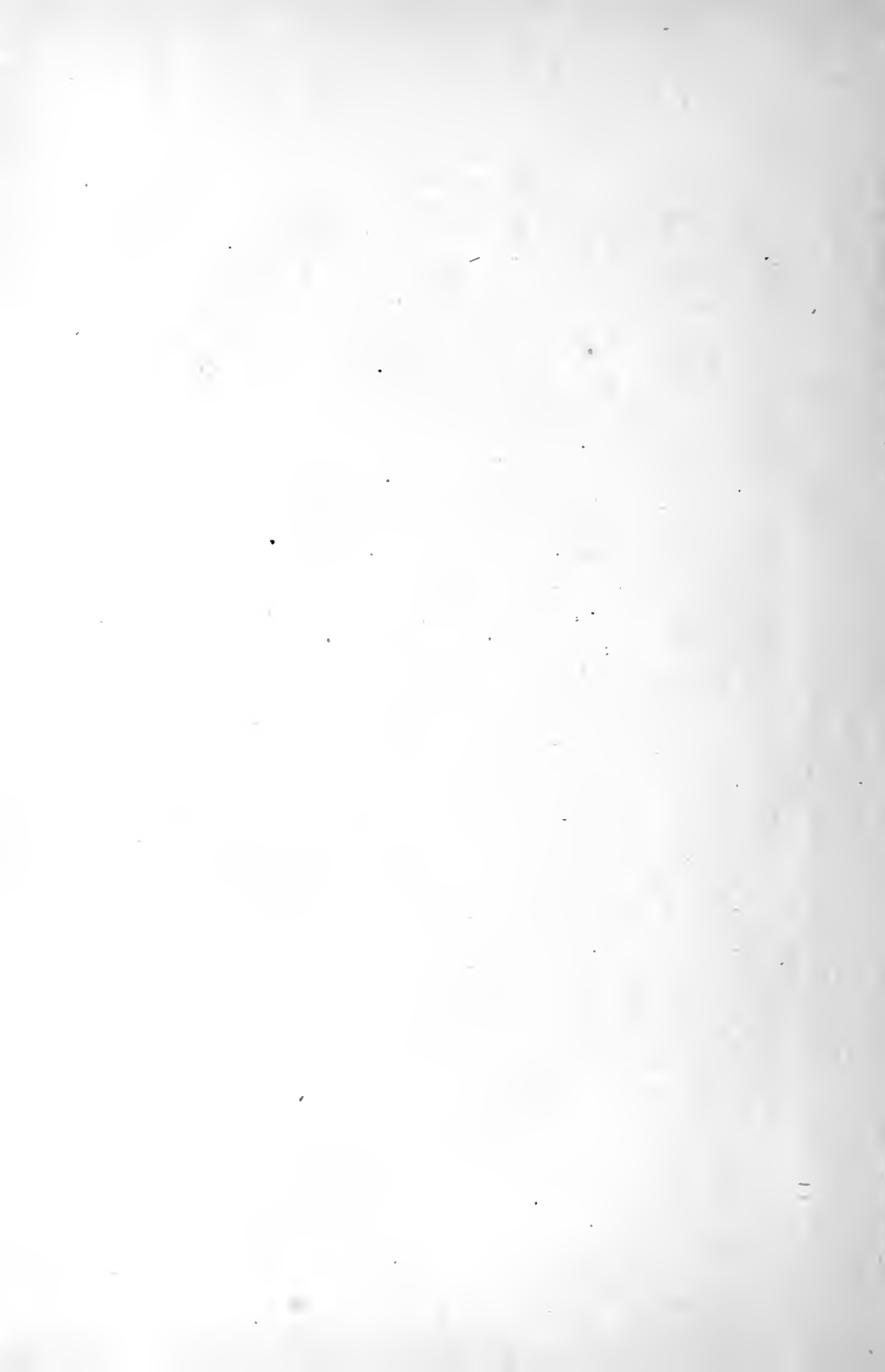
"War is hell."—GEN. W. T. SHERMAN.

"Let us have peace."—GEN. U. S. GRANT.

"Walk softly but carry a big stick."—THEODORE ROOSEVELT.

From the cradle days of American liberty to the present hour every patriot has been conscious of the need to stimulate national spirit and patriotic endeavor. Our great statesmen and warriors have charged us to be ready to defend our rights and liberties and to avoid war through preparedness. We need to respond to the present call of the President and this can best be done by every loyal man and woman doing his or her duty to home and country. We want the work of the Republic done by universal service in military and civil branches as far as practicable. We want universal military training for our youth serving not as a task but as a duty.

This book is designed to briefly outline the co-ordinated activities that are embraced in the term—national preparedness for peace through adequate preparedness for war.



American Minute Men

General Outline for National Preparedness
on Land and Sea—Covering Military and
Naval Tactics, Manoeuvring and Strategy
—Functions of Civilian Organizations—In-
fluence of World War.

From the President of the United States down to the humblest citizen there is no topic that is of more intense interest than that of national preparedness. Where the questions of military, commercial and industrial relations of the United States have been discussed from an academic or practical viewpoint by a few thoughtful and public-spirited citizens, it has now become a matter which everyone is impelled to consider and discuss as something of immediate urgency.

The complete isolation of America in its relations to the other prime nations of the world has been suddenly terminated and we find ourselves involved, against our will, and contrary to our historical principles, in a situation which means war against the Teutonic Allies. Our nation which has grown from a struggling group of thirteen colonies along the Atlantic seaboard from New Hampshire to Georgia and hardly penetrating beyond the immediate reaches of the coast, has become an empire that stretches across

3,000 miles of continent and embraces 3,000,000 square miles of compact territory besides insular and detached territories aggregating an additional 800,000 square miles. From 3,000,000 our population in the United States has increased to more than 110,000,000 in the 141 years of our existence as a nation, and we have 10,000,000 people in our outlying possessions.

Throughout our career under a written Constitution we have avoided the complications arising from "foreign entanglements" and have hoped to see ourselves continue as the pre-eminent neutral nation.

In the spirit of peace and not of bravado one of our early Presidents promulgated the Monroe doctrine which declared that the United States would look with disfavor and would, if necessary, forcibly repel further territorial acquisition or governmental aggression by any foreign powers with regard to the Pan-American countries. Our adherence to the Monroe doctrine and our sedulous avoidance of any alliances whatsoever with other nations have kept us free from the threat of war from foreign sources. Our great Civil War was fought and settled without foreign intervention, chiefly because Great Britain preferred to see the North American and South American continents controlled by the Monroe doctrine rather than have this policy defeated and unchecked European aggrandizement permitted in the western hemisphere.

With the outbreak of the world war in August, 1914, President Wilson announced the intention of this country to remain strictly neutral and he has maintained this attitude throughout the trying years of the great conflict. The severance of diplomatic relations with Germany did not come as a result of any un-

toward act of the United States, but as the culmination of an unprecedented course of infringements of neutrality and violations of international law.

Even in the early months of the world war it was declared by many who looked with prophetic eyes toward the future that the United States must be involved owing to the assaults that were being made upon the inalienable rights of mankind.

It was advocated that this nation prepare for the eventualities of embargoes, trade cartels, hostile demonstrations and even open war against the republic.

Those who spoke for preparedness were classed as "fire eaters," preachers of jingoism and advocates of militarism.

Now that the events of the war have reached a stage where it is seen that the United States is involved and its rights are disregarded, the question of national preparedness becomes of overwhelming importance.

Those who indulge in lavish dreams of the efficiency of a nation of farmers, "arising as one man and marching into battle," untrained and unarmed, tell us that without service, without equipment and on instant call the citizens of the United States can defend their homes, their country and their honor. We know this is not true.

Others who feel the necessity for adequate training and preparation speak of armies of millions, limitless fleets and appropriations that soar into the billions.

We are told by one class of publicists that foreign forces can overwhelm our borders either on the Atlantic or the Pacific coast and that our cities, such as Boston, New York, Philadelphia, Washington and San

Francisco, can be demolished as if by the hand of a giant and that nothing can save this country from such a fate. . . .

From all this mass of conflicting statements the average citizen is unable to draw a clear conception of the actual necessities of our country.

It is for the purpose of furnishing a reasonable, complete, suggestive and unprejudiced statement of conditions and of the remedies that are at hand that this book is submitted to the American people.

It is not a technical thesis, nor is it designed to be a lurid picture of threatened desolation of America. The common sense and the determined courage of our people are as great assets today as in the days of the American revolution, in the days of the war of 1812, during the Civil War or in our more recent Spanish-American war. What we need most is guidance.

Patriotism and an immediate response to the obligations of citizenship can be counted upon in the present instance. The themes that are discussed in the pages to follow and the plans that are presented are intended to serve as mental guides to those who wish to pursue any one course of action that will help to make America the land, prepared to defend peace by the ability to wage effective war.

Modern Tactics.

Any understanding of military activity must be based upon a knowledge of tactics. This is essentially proven from the fact that movements of men that are not regulated by prescribed tactics are characterized

as the acts of the mob and rabble. It is for the purpose of instructing the youth of the country in the proper handling of arms and in the regulated movements of the various formations of troops and naval forces, that schools of military and naval training, are maintained. We have our regular army and navy establishments supplemented by state militia and naval reserve for the purpose of properly educating those who serve under the government or as volunteers.

Modern tactics are shown to differ widely from those which were declared to be practically immutable in the military colleges prior to the outbreak of the world war. Before the day of the Belgian invasion it was believed by tacticians that mass formation and great frontal attacks constituted the proper method for armies to pursue when invading an enemy's country or in taking the field to defend its own territory.

The result of the first few weeks of the German invasion in August and September, 1914, proved that while an overwhelming army, supported by modern heavy artillery, could surround and demolish citadels such as Liège, Namur and Maubeuge, the halt to the forward movement of the armed mass was sufficient to defeat the purpose of the campaign. The objective of the German drive was Paris and the obstacles which confronted the armies in the cities mentioned above proved fatal and frustrated the successful carrying out of the invasion. Time was given to the French, Belgians and their allies to rally in defense and to assume safe positions in open order and trench defense. From the day that the battle of the Marne turned the German invasion into retreat and

ultimately into a long trench deadlock, the great field army movements which the general staffs of all the European powers had worked out to perfection in theory, were drastically revised.

Applying the lesson of the present war to America it can be shown that no foreign foe is likely to be in a position to land an invading army of a half million men or more upon any of our coasts. Yet we find that such a huge expeditionary force and attack in mass formation are not impossible of accomplishment. This should furnish our army and coast defense students with a key upon which to base their plans, and should intensify the efforts to have a mobile force of coast defense artillery supplemented by a sufficient number of riflemen and their auxiliaries to make possible a stubborn and successful trench and open order defense at all points on our coasts and frontiers.

The progress of the world war has proven that on the western front, most territory has to be gained by yards and not by miles. In contrast to this is the adherence to mass movements on the eastern front, where Russia, Germany and Austria have followed the professional teachings of tacticians in developing their several invasions, retreats and re-capturing of territory, and fortified cities. In Asia Minor the same method of using armies in the field has been pursued by Great Britain in the drive to Bagdad and by the return assault of Turkey in repelling this attack, culminating in the defeat of the British at Kut-el-Amara. This was followed by a second campaign by the British which dragged along, but resulted in the re-occupation of Kut, and fall of Bagdad. The Russians under the Grand Duke Nicholas, also, illustrated the move-

ment of troops over open territory covering the invasion of Asia Minor and the practical subjugation of the Turks in Armenia.

Intensive war is the prevailing method in Europe where the most modern equipment, including air ships and all the engines of destruction embraced under the term of modern scientific weapons, are used, such as gas, torpedoes, liquid fire and the other unusual agencies. In Africa and in all other fields where hostilities have been in progress old-time tactics have been followed, due to the fact that native forces have been employed under European officers and old-fashioned equipment has predominated.

Considering the necessities of the United States, it may be said that our expedition into Mexico and along the Texas border in 1916 demonstrated the inadequacy of our equipment in what is now regarded as the indispensable requisites for modern warfare, including airships, satisfactory transit facilities, medical and commissary equipment. From a study of our own limitations and the necessities that have developed in the armies of Continental Europe under the present great conflict it can be shown that the requirements of to-day and the future necessitate a re-organized army and navy as to units and the tactics under which they must operate. Without attempting to set down fixed rules for military regulation it can be stated that remodelled units must be constituted which are fully self-supporting, both in the army and the navy. In subsequent chapters this theory will be carried out in sufficient detail to be plain to even the most untutored citizen. Here it is sufficient to say that we now know that an individual infantry regiment without artillery,

signal corps, cavalry, and medical support, cannot operate against a modernlly equipped enemy.

Likewise a major battleship without support cannot engage in successful warfare under modern conditions. The battleship is impotent unless supported by auxiliary forces, including scout ships, cruisers, torpedo boats, submarines and air craft. One of the reasons why less progress is made in the plans for preparedness is that officers in the various branches of the military departments magnify the importance of their own branch of the service and minimize that of others, so that they demand an unbalanced plan of development for national defense. It is now accepted as an axiom of modern war that the eyes of the army and navy are its aviation corps. This does not permit of cavil, and both the army and navy should co-operate in impressing upon Congress the importance of making our air craft adequate to our needs.

The proper development of an aviation corps for both the coast defense and army will insure the United States against invasion or the sudden landing of an armed force, for desultory attack, better than any other method. It can be developed by a system of modern tactics so that air-craft will effectively prevent an enemy from "digging in" even should they, by any unexpected development of fortuitous weather or temporary inefficient defense, land upon our shores. The question of developing tactics for aviation in conjunction with the army and navy is new in American military affairs and we have the benefit of the results now being illustrated daily on the thousands of miles of battle-front in Europe and throughout other areas where war prevails to guide us.

Those who have been able to study from personal observation some of the results of the great war, declare that the drive of the Allies on the western front in France in July, 1916, was made effective by the intelligence which was gathered by means of the airships of the French and English, which had at that time gained ascendancy over the German aviators. Concurrent with the operation of airship tactics must come a complete revision of the tactics for the movements of the army and a very radical change in the drill and manoeuvring of the navy.

It will not suffice for a bureaucracy in any of the departments to oppose changes that make for the more efficient power of the armed forces of our country. Line officers, general staff officers and heads of departments must be brought to a point where they can all co-operate for a general result. This has been done by such conflicting forces as are represented in the Entente Council for War, and commercial preparedness which embraces Great Britain, Russia, Japan, France and Italy, to name only the prime nations that represent the Allies. If these nations and these empires can submerge their individual policies, plans, ambitions and prejudices to procure unity of motion, certainly the United States, with one form of government, and that deriving its power from the free voice of the people, can attain unity for its armed protection and without delay or rancorous debate.

Modern Manoeuvring.

As distinguished from tactics which has to do with the minute handling of men, armies, war material and

the actual drill of the various units, the question of manoeuvring must be considered as an important feature of preparedness. In the manoeuvring of forces on land the generals in charge of armies or the officers in charge of smaller bodies of troops follow fixed rules that time and experience have taught to be wise. These embrace the disposition of infantry forces, cavalry, artillery and the various auxiliary branches of the army. Nothing in the old-time books on military affairs has touched upon such questions as radio communication, aerial operation and observation, attack by gas and liquid fire. These are developments of the present world war and make necessary readjustment of the disposition of troops in the field or their location in citadels, earth fortifications or open trenches. The extraordinary range of modern artillery, which makes possible the bombardment of cities and military positions at a distance of 10 to 12 miles, completely destroys the efficacy of old-time manoeuvring. Another blasting result to the old school comes from the complete observation of troop movements that can be made by means of modern balloons and airships. It is shown by the lessons already taught in the world war that modern field manoeuvres and attempted invasions require from five to ten times the number of fighting units that were heretofore judged as adequate for carrying out such plans.

Had it not been for the aerial observations that were made on the Gallipoli Peninsula by the German and Turkish aviators, the landing of the English and French forces on the peninsula would have come as a surprise and the attack would unquestionably have been successful. Aerial observers were able to warn

the Teuton Allies of the approach of the enemy and minutely to direct the operation of field artillery to the positions which the English and French took up.

Another example of the use of air-craft for assisting in manoeuvring in modern war was the Zeppelins in locating the British high sea fleet off Jutland on May 31, 1916.

This modern agency, which has been properly termed the eyes of the army and navy, robs manoeuvring of the element of surprise and renders impossible the wonderful achievements which make Napoleon and other generals of the past famous for their audacious and effective surprises. Modern manoeuvring must contemplate the fact that the enemy is fully apprised of the disposition of troops. There remains, however, to the navy some possibility of counteracting the intelligence which is conveyed to the enemy by aviators. A modern fleet in a movement toward an enemy's force on the high seas can at once change its course and either engage in battle or evade the issue. This is something which cannot be so readily done by armies in the field.

All the teachings of military experts in the past are subject to drastic revision and none fall more completely under the modern ban than those which have to deal with manoeuvres. It is most important that the officers of our army, the non-commissioned officers and even the soldiers and sailors should have a clear conception of what modern tactics, manoeuver and strategy imply. Those who have been close observers on the European battle-fronts declare that the 20th century soldier is an entirely different unit from the stolid infantryman, cavalryman or artilleryman of past

years. In both the armies of the Entente Allies and the Teutonic Allies great initiative and intuitive action rests with the individual and this results from the fact that the officers of both belligerents have been compelled to give close instructions in many branches of military action to their men under the high pressure of necessity and under actual fire. Such lessons are quickly learned and never forgotten.

Modern Strategy.

Having reached a point in the discussion of military affairs where it is understood that tactics and manoeuvring constitute the first and second stages of training, it is time to give heed to the wider application of learning thus acquired. This comes under the heading of strategy. All generals in the past have endeavored to acquire renown by developing strategic moves in times of war that would bring a greater force of armed men at a given point than the enemy could assemble, or by the application of strategy to accomplish a surprise attack and secure results by the rapid employment of a numerically inferior force. In all this, secrecy was a necessity. In ancient and medieval times, as well as up to the present era of electrical communication, all generals and naval officers had to depend upon news brought by courier or by the inferior and unreliable methods of physical signaling, such as wig-wagging. Modern war, as the term is now understood, largely does away with secrecy and thus leaves both belligerents stripped of the power of exercising strategy with the element of surprise. The general staffs of conflicting nations soon show

by the plan of battle they engage in, and the territory in which they operate, what their objective is and this determines the character of their strategy.

When Germany decided to enter the war the strategy of the general staff sought to crush first France and then Russia. As the quickest means to this end a road to Paris across Belgium was chosen. Since that time, the first weeks of the world war, there has been no high strategy developed by the German general staff. The moves since the failure of the drive on Paris have been those of an enemy seeking to recover freedom of movement after a disastrous repulse.

The Allies have developed three lines of strategy, each of which is proving effective though slow in development. First, Great Britain by agreement with her Allies assumed the offensive on the high seas and her fleets have dominated the waters of the world since the opening day of the war. The second strategic movement of the Allies was in concentrating a huge expeditionary force at the Egyptian end of the Suez Canal and in attacking the Dardanelles. This was for the purpose of checking invasion of British territory either in Asia or Africa that would be interpreted by the millions of natives in India and Africa and in the Oceanic Archipelago as a sign of British weakness. No loss that was suffered at Gallipoli can be considered as too great for the results attained. At the time that the Russian armies were being forced back by the German drive on the east front in 1915 it was essential for the political solidarity of the British Empire that Russia should not weaken; that Japan should be given a conclusive demonstration that England was in the war to win, and that the colonials and natives in all

of Great Britain's possessions should be shown that the mother country was indomitable and invincible. The Gallipoli campaign assured these ends and saved the Suez Canal.

The third strategic plan of the Allies was to carry out a complete capture of all of Germany's territorial possessions. This has been done to such an extent that of the one million square miles which were under the German flag August 1, 1914, practically all is now in the possession of Great Britain, France, Italy, Belgium and Japan, or apparently hopelessly defended.

The battles in France, Russia, Italy and in the Balkan states have been forced, not by the strategy developed by the Allies, but by the circumstances that the Central powers occupied a compact territory and had the advantage of the quick shifting of armies to any of their three chief battle-fronts. If the adoption of a policy of persistent retention of captured possessions and intensive attack on lost territory can be termed strategy the Allies have adopted this with the motto, "All territory held by the Teutons must be evacuated as a condition precedent to peace."

This can be interpreted into the same policy that General Grant adopted when he uttered his famous dictum, "We will fight this out on these lines if it takes all Summer." His tenacity and unceasing fighting won on this basis. The enemy was given no rest and no protection from a persistent battle at one point. The Allies who had war thrust upon them in Europe have been able in the two and one-half years of the conflict to weld an iron ring around the Central powers. This ring holds at all points and is constantly contracting. It is the belief of the world that only

one result can come from the continuation of this policy and that is the defeat of the Central powers.

When trench warfare became the settled condition of the western battle-front and to a large extent on the eastern battle-front in Europe, generals, as well as admirals, had to resort to a new method of warfare and surrender the dreams of developing successful strategies. The campaign for a blockade of the Baltic and of the North seas by the British high sea fleet at long distances and with only partial effectiveness, came as the result of modern conditions, the chief of which was the development of the submarine. In the army a supplemental strategic move of the Allies came in the inauguration of the Salonica campaign. This, as in the case of the Gallipoli campaign, which it succeeded as a logical development, was based upon political as well as military reasons. The neutrality, or at least the inactivity, of Greece was insured and the division of the military forces of the Balkans was accomplished, Germany and her allies securing the co-operation of Bulgaria and the Entente Allies securing the late, but serviceable, co-operation of Rumania and the resuscitation of the armed forces of Servia.

Applied to the United States under present conditions the strategies developed in Europe and throughout the world during the past two years and more of war should teach the lesson that naval supremacy is the chief defense and the strongest arm for offense that a nation can possess. Further, the land strength to take the initiative in any field must be preponderantly superior to its opponents and must be completely equipped for all classes of modern military activities.

Where each of the conflicting nations in Europe has the protection of its own lands and its own people as the primary object, the United States has for the theatre of its activity a land of such gigantic proportions that it necessitates our navy and army being larger in all proportions and branches than any other nation of equal population. With the Atlantic Coast, Gulf of Mexico, the Pacific Coast, the Panama Canal zone, and our possessions in Alaska and the insular territories, a dominant navy is a prime requisite.

No military strategy of the United States can be successful which does not rest upon the power of a controlling naval force at the five points above indicated. Such power alone can give to the United States the ability to develop a scheme of military strategy. No nation, great or small, can rely upon a policy of defensive fighting alone. This invites domestic dissatisfaction, leading generally to revolution and intensifies the activity of an enemy. It is, therefore, clear that on strategy our plans must be developed to a point that goes beyond that of mere defensive equipment and operation and reaches a stage that will include adequate preparedness for war.

In the past two and one-half years every gain of terrain in the world war has been the result of a deluge of big projectiles preceding an armed infantry attack. This means that in preparing for the eventualities of war the United States should be supplied with a reserve of munition so large that it could, at any time, inaugurate an offensive and successfully carry a drive with its military forces. Our most effective strategy is to be able to begin a strong offensive action on any or all of the five great possible battle-fronts that the

nation must defend and from which it must proceed to meet and vanquish its enemies.

The great questions of strategy as applied to army manoeuvres, naval manoeuvres and tactics cannot be developed instantaneously by our present limited force or by those which would develop under actual war and the call for millions of men.

It requires the training that is given by a lifetime's devotion to army and navy service as in all countries throughout the world, to have officers capable of handling huge bodies of men and able to evolve proper and effective plans of engagement.

Conclusions From World War.

In a general summary of the events of the war, from August, 1914, to the present day, it is to be noted that Germany, which was the most thoroughly prepared for the conflict, has suffered least of any of the continental countries, in the matter of the invasion of its territory and has shown the greatest power of resistance. The German army was long able to hold at bay in France after their initial drive into the enemies' countries, forces that outnumbered them in the ratio of approximately two to one. It is also to be noted that in the matter of expenditures in the war, the ratio is estimated to be one to two in favor of the Teutonic Allies. Their great stores of munitions and accoutrements were gathered gradually during a period of forty-two years of uninterrupted peace, 1872-1914, and on a scale of prices that was low and based on the competitive bids of their home manufacturers. In sharp distinction to this was the almost hysterical de-

mands of the Entente Allies for adequate supplies to meet the unexpected attack. During the first two and one-half years of the war prices for all classes of munitions and for all articles of commerce that reached England or France, Italy or Russia, rose on an unchecked scale. Month by month the price on such essentials as copper, steel products, horses and food-stuffs, kept mounting. The prodigious efforts made by Great Britain to hold the sea has cost the Empire untold millions in wealth and a substantial percentage of its shipping; the same proportionate toll has been exacted from France, Russia and Italy. Great Britain has been immune from serious land attacks because of the preponderant strength of its navy and has, therefore, been saved from the devastations of war in the Kingdom just as the land forces of Germany have kept the German Empire almost completely free from suffering a similar blow.

For the United States of America to raise an army and build a navy under the pressure of war means that this nation must spend many billions of dollars where, under normal conditions, the same degree of efficiency could be attained by the expenditure of probably half this sum. This is the monetary penalty of unpreparedness. But there is a greater penalty exacted from us which comes from our inability to put a million or two million trained men into the field, officered by fifty thousand to one hundred thousand men with adequate military knowledge. Government edicts and unlimited money cannot improvise trained soldiers or summon skilful officers to command them. The one outstanding lesson of the world war is that the peace of the United States must depend in the future upon

adequate preparedness for military and commercial defense at all times and that we never sink into a state of unpreparedness such as now exists in this country. The experience of our armed forces on the Mexican border is but an indication of how futile would be our early efforts to meet a thoroughly drilled enemy of even small numbers on land.

It is harder to create a high sea fleet and a trained corps for the protection of our sea coasts. Seamanship is something that is only attained by years of practice and recruits conscripted or volunteering from the farms make easy victims for a trained enemy. A policy of national parsimony for half a century has swept the oceans practically clear of American merchant marine ships and the final obsequies resulted from the passage of the La Follette Act and apparently a tomb was erected over the American seamen when the Ship Purchase Act was passed by Congress.

What this nation has to do now is to bring its citizens in all States, those living in the cities as well as those occupying our farms, our ranches or working in our mines and in our varied industries, to realize that national independence for the United States rests upon our ability to hold our right and title to freedom of the seas. If engaged in the pursuits of peace our world trade shipping spells unequalled prosperity, and in the days of war our power to hold the sea means victory to our arms.

Great Britain has shown that a nation can be stirred to its depths, that five million men, in the British Isles alone, and two million men from her dominions could be relied on as volunteers, to support the Empire, within the first two and one-half years, be-

cause the British flag has been dominant on every sea and has held control of every continent since the first shot of the world war was fired.

Our position is one that could be made to parallel that of Great Britain. We represent a nation of 110,000,000, occupying a self-supporting land and have every resource for defense and every avenue open for effective operation against a foe. The thing to be done quickly and thoroughly is for our nation to prepare it self voluntarily to do its share of work in the world and not to leave the burden of mankind to be carried by other nations. Under the title "American Minute Men," every man as well as every woman and youth can find the exact office that will best serve the needs of our country and by enrolling and doing this thing well will help the United States to win a complete victory against the common enemies of mankind.

We are at war against great and powerful nations and the full strength of the United States must be exerted.

CHAPTER I.

THIS WAR WILL BE WON IN THE AIR.

It has been shown that the most remarkable development in the war now in progress has been made in the department of aerial navigation. All of the nations of both the Entente Allies and the Teutonic Alliance entered the war with only experimental equipment in aviation, but the instant efficiency of air-craft for scouting and for gaining general intelligence was demonstrated and fleets of biplanes and monoplanes soon made their appearance on all the battle-fronts. Following the intensive activity in making military observations, both belligerents began to increase the size and power of their airships and to equip them with guns for attack and defense. Before the first six months of the war had passed the daily reports of the conflict showed that air duels were the common course and that daring feats in the matter of raids on armed depots, munition plants and heavy pieces of artillery were being made by aviators who became expert in dropping bombs and darts on an enemy.

All of the operations that were carried out during the early period of the war were of a desultory character and lacked the precision which comes from developing an arm of defense to a point where it is used under the regulation of a fairly fixed code. There was little technique or tactics in the methods employed

by the volunteer aviators and not until 1916 did the air corps in any of the armies assume proportions that placed them on a par with infantry, cavalry, artillery, engineering and medical staffs.

In examining the records that are being made in air flights it is shown that the radius of effective flight has extended from 100 to nearly 600 miles and in extreme instances flights of over 800 miles have been made over enemy country. Such developments mean but one thing, that the war of the future will be one to be fought largely in the air. The manifold advantages of aerial combat as compared to that on the ground or on the water permits of no comparison. The cost of purchasing air craft is but a fraction of that of sea-going vessels and the effective striking power of airships as compared to the slow and tortuous movements of troops across entrenched positions and against strongly held citadels makes the air-craft the most facile instrument for modern war. In carrying out other improvements in air-craft all of the army staffs of the Continent have striven to attain a large lifting power and are now building battle-planes capable of carrying from 12 to 20 men besides guns and the aviator. With a fleet of several hundred or a thousand such ships a formidable invasion of the enemy country can be accomplished, especially where the belligerents occupy contiguous territory. The cost of maintaining an airship fleet is small as compared to the more numerous and cumbersome branches of the infantry, cavalry and artillery.

The mobility of the air-craft is one of its greatest attributes and military precedents vanish under the new records that airships are making. The advance of

an enemy can now be seriously impeded by the vigorous attack of air-craft in much the same way that cavalry was used in the old tactics. Distant fortifications and munition centers are open to assault, and where they are not entirely destroyed their effectiveness is seriously impaired by the fires which result from air raids and the dropping of bombs. In the complicated production of modern munitions the destruction of one department may be so serious as to retard the completion of supplies.

In building up the aviation corps of the army for the United States there are many arguments in favor of the work being done on a generous scale. In the first place this country has the distinction of being the home of the first heavier-than-air craft and the early developments in aerial navigation were carried on here. The inventive genius of Americans has done much to advance the science and the needs of our country lend themselves with particular weight to the protection which must be given by air-craft. This country with its more than 8,000 miles of sea coast, its long northern line from the Atlantic to the Pacific, stretching nearly 4,000 miles in its contour and with the southern and southwesterly frontier along the Mexican border of over 1,800 miles, the patrol duty alone is one that is formidable if it has to be done by cavalry or foot soldiers. With the aid of airships this long coast line and border can be effectually patrolled, not only on our own side of the line and on our shores, but for great distances over the ocean or in the enemy's territory. This alone places the aviation question before the people in such an imperative manner that it cannot be ignored.

What is now required is that our army and naval officers should formulate a code of aerial tactics and manoeuvres that can be utilized by the state militia and the naval reserve so that co-ordinated movements could be accomplished in the present war. It is apparent that with the ability of a hostile airship to cross into our territory the hangars or sheds, as they may more properly be termed, for housing airplanes, dirigible and observation balloons, should be made subterranean and bomb-proof. The present policy of having aviation landing stations and the buildings constructed of flimsy material and without protection seems ill-advised and inefficient. These shelters should be built on some plan similar to the dugout or potato house, which is familiar to anyone who has been on an old-fashioned American farm. Having a mound of earth thrown over the structure and this turfed down, enemy aviators would be unable to locate the shelters and even if a bomb should fall upon the shelter it would do little or no damage.

In carrying out the development of air-craft for the American army and navy and its auxiliary forces, due heed should be taken of the accomplishments of monoplanes, biplanes, triplanes, super-airplanes of quadruple-plane construction, the dirigible airships and the various types of captive balloons. It is shown in practice that from engine trouble or some other slight adjustment airships frequently have to descend and repairs have to be made on the ground. Where this is done in an enemy country it is perilous and some means of escape should be provided for the pilot and observer. This may best be accomplished by having as standard equipment with every heavier-than-air

craft a motor-cycle carried in the same way that a spare tire is furnished with an automobile. This would give the crew of the stranded airship an opportunity to retreat or escape by a dash from pursuers. In formulating plans for the airship corps the United States should think of the future as well as of the present development of the art. Efficiency means perfection in detail and this country is free to choose its type of ships and the various refinements connected with the art, selecting from all other nations, discarding their failures and adopting their successes. It is of prime importance that early drilling should be done, with airships in squadrons, platoons and squads, and that a system of group operation should be devised that is similar to the movement en echelon that is employed for infantry and cavalry manoeuvres. In place of being on a horizontal plane the airships would move off at various altitudes so that the ships nearest the earth would be in advance. By maintaining such a formation an enemy's counter-attack would be placed at the disadvantage of having a series of airships pass in flight over their heads and the force having the larger number of ships in action should succeed in dominating the situation.

As nearly all of the efficient raids that have been made during the great world war against munition plants and fortified positions have been conducted at night, it is important that the United States aviation corps should be drilled for nocturnal engagement. The sudden daylight raid is robbed of the element of surprise and subjects the pilot to the maximum of danger from counter-attack by anti-aircraft guns and by opposing airship antagonists. The records show that

airships have been used with marked success for observation, counter-defense against the scout ships of an enemy, daylight and night attacks on enemy positions and property, long distance scouting, for messenger service and, in the instance of the defense of Kut-el-Amara, for the attempted release of a beleaguered garrison.

The theory in military aviation places speed as the first requisite and airships should be brought to a point where they can attain 150 to 200 miles per hour, in sudden flight. The second requisite is ability for sustained flight and increase in radius of action; the third requirement is carrying capacity and the fourth aim of the present inventors who are attempting to standardize aerial service is to perfect the climbing quality of the heavier-than-air craft. A desirable attribute in air-craft is stability and this is being improved by stabilizers to such an extent that the carrying of armament is not now as dangerous as it was in the earlier stages. American ingenuity has evolved the non-recoil gun so as to take up the shock of explosion and thus relieve an airship of the racking that comes from the discharge of a gun fixed rigidly to the frame. In the perfected methods for bomb-dropping and for projecting air torpedoes the modern airships are proving their military worth. It is not now the exception when a direct hit is made, but rather when the missile misses its mark.

Extending the functions of the airship to navigation over water the ingenuity of inventors has produced many types of hydroplanes which can not only ride on the water and arise under their own power, but which can be propelled on the surface at a fair

speed. This dual capacity to travel on either air or water and to land without damage on terra firma makes the modern airship truly a rival to aquatic fowl. For all coast defense and for equipment on naval vessels and other ships the hydroplane is the proper type of air-craft to be used.

Those who are most deeply interested in the question of national defense and in aviation declare that the transoceanic flight by airship will be accomplished when a perfected hydroplane is produced. It is believed that the risk in attempting a trans-Atlantic flight in an airplane that would be powerless to float on the water is too great to be attempted and that when a staunch hydroplane with a 3,000-mile radius can be produced the ocean flight will be undertaken and successfully accomplished.

It is certain that the United States with its sea-coast cities and its concentrated munition centers needs the protection of huge fleets of airships. For New York harbor, for example, squadrons of hydroplanes and airplanes should be located at such vantage points as Governor's Island, Sandy Hook, Ft. Wadsworth, Ft. Hamilton, Far Rockaway, Bath Beach, Long Beach, Ft. Totten, Ft. Schuyler, Fire Island and Montauk Point. At Boston, Baltimore, Norfolk, Washington, Philadelphia, New Orleans, San Francisco, Seattle, adequate aerial defense should be developed. It is interesting to consider that in multiplying the number of aircraft to be used in this country when we regain our desired peace with other nations our airships can be used most effectually for purposes of peaceful commerce and for the distribution of mail, light merchandise and for passenger transportation.

As soon as aviation is firmly established and is regarded as safe it will become a national utility the same as the automobile and, where a few hundred airships are now used by amateurs for pleasure and sport, probably millions will be in service within a few years. The cost of manufacturing airships in large quantities can be brought down, so that they will be very much cheaper; like the popular priced automobiles and their upkeep will be correspondingly lower. There is no comparable expense for tires, in airships, as with automobiles and the question of good roads is entirely eliminated. All flight is made across country and snow or mud is no drawback.

The strongest defense this country can evolve is to have a supreme command of the air. This war will be won by the nation having control through airships, and whether the war is brought to this continent or is fought elsewhere, the determining factor will rest in air-craft efficiency. This country must be at all times prepared through practice to be in a position to withstand aerial assault. Millions of men fully equipped as militia or as a regular army are ineffectual in combatting an enemy that controls the air. For this reason the naval reserve, our state militia and the regular army and naval forces of the United States should engage in extensive aerial manoeuvres so that thousands of men in all sections of the country can be made familiar with the handling of airships. Not only should the carrying out of the aviation corps be made a national policy, but full consideration must be given to the best methods for protecting cities and manufacturing centers against aerial attack. The use of anti-aircraft guns and the manipulation of searchlights

for repelling night attacks cannot be improvised and well-drilled gun crews and expert manipulators of searchlights must be made part of the drill in connection with the aviation corps.

In summing up the advantages of air-craft in war these reasons are most convincing and should carry weight with members of Congress and state officials who have the final say in passing on appropriations for military purposes. First, opposing armies cannot anticipate the direction of an assault to be made by airships. Second, opposing armies cannot employ asphyxiating gases against airships. Third, trench works of the enemy are immediately passed over and without loss of life or wasteful use of ammunition. Fourth, the assailants can deliberately pick the time and place of attack. Fifth, aerial equipment is the most economical of any class of war munitions. Sixth, the number of men employed for the objects attained is smaller in the operation of airships than in any other branch of service. Seventh, enemy country is least able to protect itself against aerial raids, because these attacks are made across country, whereas operations of cavalry, artillery or foot soldiers must be along railroad lines or on highways. Eighth, danger from mining and direct gun fire can be avoided by the use of air-craft. Ninth, the operation of the airship is more effective than surface or submarine ships, because these are subject to continued direct attack by similar craft and are liable to destruction by mines and the hazards of storms and shipwreck. Tenth, the unparalleled mobility of air-craft in its perfected form is proven by the fact that it is not subject to impairment by mud, hilly country, rivers, flooded areas, artificial

barriers or weather conditions. Eleventh, experience indicates that manning airships in proportion to the accomplishments they can attain compares as one to one hundred with the quota of men needed for land attack and one to twenty for attack by means of naval vessels taken all in all. Twelfth, aviation permits of rapid and repeated assaults on one point without the danger of retreat or siege. Airship assaults can be made from great distances and repeated at irregular intervals so that the enemy is frustrated in trying to cope with unknown forces attacking from unexpected quarters at random intervals and with unknown implements of destruction. Thirteenth, the number of killed and wounded in the aviation corps is the smallest of any where the hazards of the service are estimated on a percentage basis. Fourteenth, historical chronology shows that one bowman was worth five swordsmen; one rifleman became worth ten bowmen; one modern magazine rifleman became worth ten single shot riflemen, and one perfected machine gun or rapid fire gun proves itself sufficient to repel a platoon. With airships one perfected dirigible or battle-plane with a quota of 25 men is regarded as the equivalent of a thousand foot soldiers or one naval vessel of minor importance. Fifteenth, it is stated a modern aerial fleet can prove its effectiveness and should place a force of 5,000 men organized in an air battle unit in a position to withstand the assault from a land force of at least 200,000 that is not so well equipped in air-craft.

The modern air fleet will give this nation the power to protect its own coasts, its interior cities, towns and rural districts and to carry if necessary a vigorous war into the enemy's country with a minimum loss of life and at the minimum of expense.

CHAPTER II.

SUBMARINES AND THEIR PROPER CONTROL.

When firearms were first introduced into warfare the nations of the world did not relapse into unchecked barbarism by extending their use as a means of attacking non-combatants or in utilizing this new instrumentality of death in a way other than that of destroying the armed forces of an enemy. The crude principles of international law which existed in the eleventh century when cannon were first used in an action before Constantinople were sufficiently restrictive to keep even the unspeakable Turk of that early day from lapsing into utter barbarism.

It remained for the present era to be marked by the savage development in the conduct of war as illustrated by the unrestricted use of submarines by the Teutonic Allies. The German plan of frightfulness in the use of submarines which results in the torpedoing or sinking by direct gun fire of all ships entering an inhibited zone, makes a veritable scrap of paper of all international treaties, and flouts the common law of humanity. It is, therefore, compulsory on the part of nations that cleave to the principles of justice and international comity, to so regulate the operation of submarines that they can no longer be used in an unrestricted manner, for no exigencies of war can justify a continuing violation of the

rules of humanity and the merciless murdering of women, children and non-combatant men on the high seas, any more than to countenance aerial assaults over undefended cities or country sides. The invention of a new method of destruction does not carry with it the license to unrestricted use by nations any more than by individuals. The submarine when used within its proper limits must be bound by the same regulations that are enforced against surface or aerial craft. Germany in using the submarine and Zeppelin has shown a total disregard for humanity and has brought upon the Empire the united opposition of all nations not directly allied to her in the present world war.

For future operations it will be necessary to make the untrammelled use of the submarine a cause for war and result in the immediate armed repression of the offender by all the civilized nations that are party to the international peace league, which it is now certain will be the redeeming result of the world war. The fatuous statement that the necessity of war compels terrorizing use of submarines, airships or war instruments on land is disproved from the fact that in place of bringing England, France, Belgium, Servia or Italy into a state of subjection the massacres have only intensified the spirit of the people to resist to the last the militarism of Prussia and her Allies.

Not only is the effect negligible as a means of terrorizing an enemy, but the psychology of unrestricted use of diabolical methods of destruction is detrimental to the offender. It creates mental weakness and moral degeneracy and it is now the judgment of military experts that the esprit de corps of the Teutons is weakened because of their dependence upon frightfulness

to win battles where straight manhood, courage in open conflict, should have been their dependence. The fighting quality of all of the Entente Allies has been strengthened and is today the greatest assurance of their ultimate victory. The instinct of self-preservation is keener in the man who is attacked by foul means than in the despicable creature who uses inhuman instruments to bring death upon innocent humanity. Nations could not have been fanned to a white heat faster than by being attacked in the cowardly fashion that is typified by the unrestricted use of the submarine. On land there is always the possibility of the citizens of an invaded territory fleeing before the advance of an enemy, but on the high seas when merchant ships are sunk, often in the darkness of night, without notice, and where no attempt is made to rescue the few unfortunates who may take to small boats, death is presented in its most awful form. After more than thirty-two months of warfare it is the consensus of opinion throughout the world that the nation using frightfulness as its chief weapon writes itself as defeated. The inefficacy of raids by the use of Zeppelins is now a matter of record and their visitation to England and France is believed to have been abandoned, not through a change of heart, but from the fact that the Entente Allies have learned how to repel this form of wanton attack.

The intensified submarine warfare, which was announced to start February 1, 1917, and which is now in progress, is bringing to the front the difficulty of submarine regulation, and all neutral nations as well as the entente belligerents have to address themselves to the question of how best to safeguard their shipping

interests and maintain their undeniable rights to the free use of the high seas. In place of dragging along indeterminably, the new horrors of the submarine which have been added through the Laconia outrage to the earlier sinking of the Lusitania, will now be solved in the interests of humanity by the international suppression of twentieth century piracy.

The proper use of submarines as an arm of the navy for harbor defense, for coast patrol and as an auxiliary to a high sea fleet in action, does not need to be restricted or minimized. Any action that a submarine can perform against an enemy's armed ships is justifiable according to the principles of war. There has been no complaint made by any of the enemies of the Teutons against the successes of submarines when they were scored in destroying battleships, cruisers, troopships or other forms of naval craft that were a legitimate opponent.

It is conceded that submarines may properly be used as a means of blockade of an enemy's ports where they operate under the same restrictions as surface ships and where visit and search and the safety of non-combatant crews and passengers are fully provided for. The history of the present war shows that in a number of instances submarines of the Teutonic Allies have been able to conform strictly to the letter of the law in this regard and the outrages that have resulted from unrestricted submarine activity emphasize the abandoned policy which Von Tirpitz has imposed upon the German people. Where visit and search and safety of crew and passengers cannot be accomplished the submarine must be forced to forego the advantage of sinking a merchant ship and endangering human life.

Nothing can justify humanity in sanctioning massacre at sea in forms that outdo the black days of old-time piracy.

The question of submarines widens as a result of the present war into a consideration of their models. There are now harbor and coast submarines of small tonnage; large cruising submarines with a radius of from six to eight thousand miles and cargo submarines of the "Deutschland" type which are intended to act as blockade runners and as supply ships for a navy. It, therefore, becomes of immediate interest to all nations to revise international law so as to have a set of regulations to govern the movements of submarines.

The fundamental protection of a neutral zone on the coast line of countries is vitiated when submarines are permitted to come within a now too narrow three-mile limit, submerged. This must be changed and a zone of at least twelve miles made immune from the entrance of submarines except upon the surface. This permits of the patrol of the neutral nation hailing an approaching submarine, ascertaining its character and purpose and escorting it into a harbor. In the present world war Great Britain has used submarines in a strictly legal manner; so has France, Russia and Italy. It was only the Germans and the Austro-Hungarians who resorted to unrestricted submarine activity and who have brought the criticism of the world upon themselves. The isolated instance where it was alleged that a Turkish submarine had sunk a passenger ship and had killed many passengers, including an American Consul, is generally accepted as having been a vicarious acceptance of guilt by Turkey

to shield Germany from an instant break with the United States.

During the war several nations have taken a drastic position as to the treatment to be accorded submarines, and Holland, Denmark and Norway have ruled that a stranded submarine or one coming into a neutral port to escape capture must be interned.

Because the United States took no prompt action in formulating rules for dealing with the submarine question we were embarrassed by the entry into the port of Baltimore of the merchant submarine "Deutschland." This placed us in a position where it would have been unneutral to have denied the ship the courtesies of our port inasmuch as we had given no previous warning as to our attitude. Later the ship made another round trip and entered the port of New London. While there the U-boat 53, a navy vessel, visited Newport, Rhode Island, remaining scarcely twenty-four hours, and took to sea, immediately attacking merchant ships and sinking six within sight of the American coast. Our unpreparedness in the matter of knowing how to deal with the submarine difficulty forced the humane impulse of our destroyer fleet officers to trail the U-53 and pick up the men, women and children who were ruthlessly set adrift in small boats. A more ignominious position has never before in the history of man been forced upon a great nation.

It is incumbent upon the Federal Government to take cognizance of the submarine in its international phase as well as its being an instrument for use in our navy and to provide strict rules for its control. These must provide for the methods of approach to our

shores, the conduct of the craft while in our harbors and the method by which such craft can depart. It is all-important that no submarine of any other country should be permitted to submerge in American waters. At the present time the spying qualities of the submarine are limited, but ingenuity will certainly succeed in giving undersea eyes to the submarine and this would make harbor defense a travesty if submarines of the enemy or of any nation in time of peace could make a leisurely survey of our under-water harbor protections.

One of the great advantages which it now appears will always attach to the submarine is its development as an emergency freight carrier. This opens the possibility of a large merchant submarine fleet with increased surface sailing ability, carrying on trade with ports that are closed some portion of the year by ice blockade. In times of war in which the United States was neutral it would give this country the power to continue its trade with a nation that was being blockaded. If our submarines were dexterous enough to run the blockade they would be fully within their rights. As a means of national defense blockade-running submarines might prove the salvation of any of our coast cities. If an enemy fleet and an invading army should invest an American city, the only means of egress and ingress might be by submarines and for this purpose it is imperative that our channels and harbor entrances should be deepened so that our own craft in time of war could enter and depart from our harbors submerged and immune from the attack of a blockading fleet.

There are so many questions of vital importance

arising from the world war and the present chaotic condition of this country in the matter of defense and offense, that it is difficult to pin down to the most essential things to be done at this critical time. Certainly all minds will agree that the building of an adequate fleet of submarines for the navy and the creation of a large merchant submarine flotilla are indispensable to our safety. It will also be clear that strict regulations for the protection of our country and the effort to get international co-operation to control submarines are things which Congress should undertake at once.

CHAPTER III.

NEW INTERNATIONAL LAWS.

It is appreciated by the governments in all parts of the world that there is urgent need for a revision of international law that will take full cognizance of modern fighting conditions and the inadequacy of old time international practices which had been honored by close observance through centuries when war was a matter of hand to hand conflict, or at best was waged with crude and unscientific implements. The new code of international law will embrace regulations for the operation of craft that sail upon the surface of the seas; for under sea navigation and for aerial vessels. Under these three grand divisions the present world war has been waged in a manner which no diplomacy of the nineteenth century could have foreseen and which has resulted in flagrant violations of what the world had thought to be sacred national rights of belligerents, as well as neutrals.

The new canons of international law will include regulation of hostilities by belligerents and their attitude toward non-combatants of the warring nations. They will include new rules for the protection of neutrals, both on land and on sea, and will be drawn so as to include proper protection of life and property. The great world war has made utterly futile the recognized requirements of international law. The

rights of neutrals have been ignored in many instances and outraged in others. The rights of non-combatants on land as well as on the seas have been abridged by all the warring nations and gradually obliterated by others. The barbaric dictum, "Necessity Knows No Law," has been revived and has been put into full demonstration in the violation of neutral territory, the levying of crushing indemnities against cities and citizens of an invaded territory and even to the extent of the deportation and enslavement of people in subjugated countries. All of these acts are in positive contradiction of the inhibitions that are laid down by international law and to which all of the chief nations of the world were signatory and morally bound in August, 1914.

Might has had its sway under the sword of the Teutonic Allies and no act has been too violent or too inhuman for the war leaders to sanction. Now the world faces a future which must rewrite international codes and provide for positive enforcement of written pledges. The future cannot be safe under the belief that a treaty will hold when the result of the present day shows that the most sacred treaties may be regarded as "scraps of paper" by an imperialist. The international law of the future must be backed by a sufficient armed force gathered from the combined resources of all the civilized nations, to make it almost a physical impossibility for any one nation, or combination of nations, to openly and flagrantly violate the edicts of mankind. This makes it necessary for each nation to prepare to defend itself against aggression. It is the armies of Switzerland that have prevented Germany, Austria, Italy or France

from carrying the war into Swiss territory. The little republic is not strong enough to defeat a determined attack by any one of these powers, yet they all respect her inviolability for the reason that should one attempt to violate Swiss neutrality the others for self-protection would come to her rescue. What the attitude of the world would be toward the United States if we were adequately prepared to protect our rights cannot be misjudged. We would live in peace and our strength would be our greatest protection.

New international laws must be drawn to regulate the methods of aerial warfare. This comes from the fact that aviation, which is a distinctly twentieth century development, puts within the power of man the means of overcoming distances, terrestrial barriers and any physical restraint that has hitherto been compelling in its deterrent force against the raiding or invasion of one country by another. The Zeppelin raids of the present war constitute a method of attack too dastardly to tolerate in the future. It is the sense of all nations which retain their reason that such a use of a human invention cannot be given sanction. The nation that hereafter should attempt to use such a method in warfare would invite the immediate opposition of all other nations that claim to be civilized, or be put under such a penalty that the unrestricted use of dirigible air-craft would not be attempted. With heavier-than-air craft the same rules apply. The bombarding of undefended cities and towns and the destruction of merchant ships by bombs or torpedoes projected from air-craft cannot be tolerated. The revised international code will interdict such methods and uses of airships and the league of nations to

enforce peace will be physically able to curb an offender.

New laws regulating fighting on the high seas will be drawn so as to prohibit the unrestricted use of submarines. This will follow from the murderous methods that have been utilized in the present war. It is realized that no exigency can justify a nation disregarding the broader rules of humanity. The sinking of merchant ships and the killing of non-combatants, whether of belligerent or neutral nationality, is too hideous a course for any nation to pursue and the common action of mankind will rule against it. On a par with the unrestricted use of submarines in what is known as a "war of frightfulness" is the bombarding of undefended coast towns by cruisers or other warships. This is as flagrant a violation of international law and of the dictates of humanity as any that can be conceived. It has proven in practice to be wanton and utterly futile in its results. The bombardments along the North Sea coast of Great Britain have resulted in the killing of women and children and the destruction of houses, schools, hospitals and churches, and less than one armed combatant has been injured for every ninety-nine innocent lives that were sacrificed. The Zeppelin raids over London, Paris and other cities are classed in what may be termed the barbaric phases of the world war and international law in the future will be so written as to compel not the negative denunciation of such acts by neutrals, but the instant armed resistance of the peace league nations.

The shelling of hospital ships, passenger ships plying between neutral and belligerent countries and

all of the train of unrestricted acts of violence against non-combatants must be brought within the specific restrictions of the new code of laws.

It is certain that in the amplification of the laws to regulate nations due provision must be made for the regulations under which naval or commercial submarine craft may enter neutral ports. This follows from the fact that the mechanical improvements in submarine structure make it possible for a submerged vessels, if permitted to act within the three-mile limit of the neutral shore, to conduct a careful study and inspection of the harbor protection, including mines, channels and other matters of military secrecy. It should certainly be the purpose of the revised international code to effect an immunity zone surrounding any nation by water to at least a twelve-mile limit. This is due to the fact that the range of large guns now runs from 12 to 20 miles and when the old laws were adopted and the three-mile limit was set it contemplated three times the possible range of an enemy's guns. The twelve-mile limit would be a just revision.

If this stipulation is embodied in the new international laws it will put a large body of water between belligerent vessels and a neutral coast. The submarines or surface craft of any nation seeking entrance to a neutral port should be compelled to undergo inspection and enter the neutral harbor under escort. No submarine should be permitted to enter any port except upon the surface and should not be permitted to submerge while in territorial waters.

The revision of international laws must be more than reflective and must anticipate some of the things which modern invention makes certain will be turned

into war instrumentalities in any future combat. One of these is the operation and inspection of air-craft and the United States and other civilized nations should take quick action in passing laws prohibiting the landing of any aircraft upon their territory except under escort. Where this is found to be impracticable owing to weather conditions the landing of an air-craft within territorial limits must be followed by the internment of the craft and its crew for the term of the war. The possibilities of a fleet of airships, whether of the dirigible or plane type, effecting a landing in neutral territory, are such that they must be guarded against. The carrying capacity of airships is constantly being increased and a fleet of such ships could conceivably carry a considerable expeditionary force. This force, if permitted to land without violating international rules, might constitute a serious menace to a neutral territory and result in an expedition of such belligerent starting from neutral territory against an enemy. This would naturally involve the neutral and work a serious complication. The practice of visit by port officers which is imposed on sea surface vessels must be extended to both submarine and air-craft and that this will limit their mobility is no argument against the necessity of mankind to see that this precaution is taken for the benefit of humanity. The safety of the crews of merchantmen and the safety of passengers must be re-asserted and re-established on the penalty of instant ostracism of any nation that violates these dictates for personal advantage.

Strict revision of the international laws relating to the care of prisoners of war must be provided and neutral nations must feel it incumbent upon them-

selves to do more than wait inertly for the termination of the war, when flagrant violations are enacted by belligerents. The use of prisoners for the purpose of doing military duty for an enemy is one of the glaring crimes of the present world war. The use of non-combatants, constituting women and children and the aged inhabitants of captured towns and cities, as a screen for moving forward soldiery, shows to what extent violations of law may be carried when weak and ineffective protests alone are made.

The international law which will be built upon the experience of the present war will augment the rights of neutrals and rigidly confine the activities of belligerents. In the present war the rights of neutrals have been ruthlessly set aside and the entire world has been forced to participate actively or passively in the hostilities which have been destroying life and property to an almost boundless extent.

The covenants of the international peace treaty that must ultimately be signed at the close of the present world war must contain provisions for safeguarding the world against a recurrence of militarism in its abandoned forms. War, if it must come again, should be held within strict bounds. The right of the inhabitants of the world as a whole to live in peace is paramount to the narrow privileges which a segment of the whole may be pleased to strive for through the arbitrament of war. When a question arises which cannot be settled by a peace conference and through arbitration, those who wish to throw down the gage of war must be held to account and forced to keep their fighting within their own territory or so restricted as to minimize and not magnify the sufferings

of the neutral world. They must, under all circumstances, be forced to employ only such means of destruction and utilize such methods of warfare as do not run counter to the international code to which they were party prior to their entry into a state of war.

The declaration of war zones must be rigidly restricted and the open seas must be held as positively immune from the wanton activity of either air-craft, surface-craft or submarines, as directed against neutrals or enemy non-combatants. The nations that go to war in the future must be compelled to fight with clean hands and confine their movements against their enemy's lands and property and in this event be curbed by the power of international law as agreed upon by the nations forming the league of peace. When it is shown that a nation has violated the code, then all the neutral nations must withdraw their representatives and make the offender a common foe and outcast and subject to immediate suppression.

Nations must be made to realize that they are not above the law of humanity and the comity of the world.

The United States must take the initiative in asking all other powers to join in the universal peace compact. This does not have to be so restrictive in its purpose as to destroy nationalities or attempt the re-moulding of humanity. Each nation must be called upon to give a pledge of good behavior and to participate in a peace armament that will include a majority of its prime units of naval and land strength to be used as an international mobile force. The Grand Army and Navy of Humanity should comprise a composite of all of the units of the leading nations. This would make for

the universal brotherhood and ultimate world peace and is feasible for the Entente Powers show that nations of varying types and racial antipathies can be brought to act in perfect concert. The Allies embrace Englishmen, Scotchmen, Welshmen, Irishmen, Canadians, New Zealanders, Australian colonists, natives of India, the native and Caucasian inhabitants of Africa, Russians, Frenchmen, Italians, Japanese, Belgians, Portuguese, Servians, Roumanians, Greeks and the Americans who constitute the foreign legion. Under one banner all have fought for a common union and are working for what they believe to be the salvation of mankind. They are fighting what they are sure will result in being the victorious battle for humanity.

We have joined the Legions of Justice and the weight of our arms and the power of our moral influence must be made to count to the fullest extent in re-establishing peace.

CHAPTER IV.

CHEMISTRY IN WAR.

Modern chemistry has played the dominant part in the present war. High explosives have done their part in changing the tactics which all the military authorities among both belligerents have exercised in their efforts to secure victory. The initial invasion of Belgium by Germany, with its enormous siege guns, proved that high explosive projectiles could, within a few hours' time, demolish what were thought to be impregnable fortresses. Forts capped with armor plate cupolas proved to have no lasting resistance against the demolishing projectiles from the 42-centimetre siege guns. With almost the same irresistible forward movement of a steam-roller the huge German artillery passed over Belgium and the northern fringe of France. The same experience was repeated in the siege of Lemberg and later in the war by the Russians in their capture of other Austro-Hungarian strongholds. Again the Germans proved the invincibility of modern high explosive projectiles in the capture of Warsaw and its surrounding forts.

In 1916 the world was startled by the terrific character of the bombardment of Verdun. Several of the forts surrounding this bulwark of the French border and the key to Paris from Northern France were

shattered by the concentrated fire of the German guns. The explosives used were not ordinary gunpowder, as this has been understood in past wars. It was the product of new chemical discoveries and consisted chiefly of gun cotton. This form of explosive has now become so generally adapted to the work of modern warfare that the Entente Allies placed cotton on the contraband list so as to prevent Germany and the other Teutonic Allies from securing this indispensable article of which the United States produces over seventy per cent.

When the world became hardened to the stories of sieges and the withering effect of concentrated artillery fire, it received a shock by the announcement that the Germans had invented a poisonous gas and were using it on the western front against the English and French soldiers in the trenches.

The novelty of this form of attack struck the civilized world with horror and at first it was put down as another German atrocity. In this connection it may be stated that the Teutonic Allies were well within their rights in using asphyxiating gases in war against the armed forces of an enemy. Nothing short of maudlin sentimentality could make a real soldier whimper at being attacked by any form of death-dealing instrument or element.

After suffering several serious setbacks from their inability to cope with the asphyxiating gases that rolled across their trenches, the English and French military officials, aided by chemists, contrived to meet the new agency of death by the adoption of trench masks. These protected the mouth and nostrils so that the choking fumes of the gas, as it rolled over

the trenches, did not prove fatal to the defenders. The next step was for the Entente Allies to recognize the new method of fighting and to adopt gas and liquid fire as retaliatory means of offense and defense. Now all the battling armies are equipped to use gas waves and fire, and are accustomed to repelling assaults following the release of the gas and, themselves, projecting assaults on the enemy by this method.

It is a tribute to chemistry to know that the operation of wireless, the propulsion of motors and the use of electric batteries are all a part of modern chemistry. Other weapons of modern warfare would be useless were it not for the ingenuity and deep research made by chemists in perfecting explosive engines, storage batteries and in producing gases for the inflation of observation balloons.

In the third year of the great world war, the combatants, as well as the world in general, have become accustomed to strange manifestations of human energy. The shelling of an enemy's position and even of undefended cities and important manufacturing works by explosive bombs dropped from airships is one of the hideous necessities of war. This has resulted in killing many innocent people and is being resorted to sparingly by the Entente Allies and only in such cases where a reprisal is made compulsory, but no atrocities of the Zeppelin type have been perpetrated.

All of the reports from the battle-fronts show that the operations of the sappers and miners are being carried out on a grander scale than was ever before attempted. Mining and counter-mining and the laying of torpedoes underground ready to be set

off by an electric spark controlled from great distances to the rear form part of the daily routine of modern war.

In applying the lessons of the world war to America, it is safe to say that we are not likely to be forced to guard against assault from field armies where asphyxiating gases can be resorted to. An enemy must have his own country immediately back of him for endless supplies of the necessary ingredients for making gas in quantities sufficient to flood trenches, and this cannot be accomplished through a service that necessitates traveling over 3,000 miles of water on our Atlantic coast and from 5,000 to 10,000 miles on the Pacific. Our military instruction, however, should include the theory of protecting soldiers in the trenches against such an attack and full instructions how to retaliate in kind to guard our own land and to make our soldiers competent to employ this agency if obliged to engage in battle in foreign territory.

With the wonderful development that has been made in chemistry in the United States in the past two and one-half years our chemical works are now reaching a point of development where they can make this country completely independent of foreign supply. In the matter of high explosives we are producing the necessary heavy chemicals in sufficient quantity to supply the Allies with hundreds of millions of dollars worth of material and if necessity demanded our own army and navy could be superabundantly cared for on instant call.

It is shown that the use of gas in warfare has intensified the value of airships. Where foot soldiers, cavalry and artillery in fixed positions are subject to

the destructive power of bombs and gas waves, the alert, mobile and elusive airship can pass over the enemy's lines and make the gas and explosives utterly ineffectual as a defensive means. At the same time airships will be able to use bombs, liquid fire, darts and aerial torpedoes with telling effect. So it will be seen that chemistry dominates all branches of military activity.

When the warring nations gather in their peace conference at the conclusion of the present war, it is an open question whether they will vote to abolish the use of gas and other chemical contrivances in warfare. This would be robbing the peace-loving majority of the right to use a most potential instrumentality. It would be on a par with announcement that the officers of the law in a city were disarmed and that the criminal element in the city were permitted to go fully armed.

In the United States it is most essential that some of the important chemical works that are being drawn upon to supply the army and navy shall be located at points distant from our coast and borders, so that no sudden attack could result in their destruction. This has already been provided for by the foresight of a few private concerns that have gone into the interior states for sites for their modern plants. It is fortunate that this country is so distinctly a manufacturing and industrial power, for it gives the chemical, dyestuffs and drug trades an opportunity to find a market for their products in times of peace and does not limit their activities to producing materials for war. Among the drugs and heavy chemicals that are chiefly used for explosives and in the production of miscellaneous

munitions essential for war America is capable of being self-sustaining.

Authorities in the industry assert that our present production is sufficient to provide for the needs of the United States under any circumstances and that production can be increased with present facilities so as to provide for uninterrupted supply for our export trade, as well as for taking care of our domestic commercial and military needs. An adequate after war protective tariff must be imposed to hold this advantage.

CHAPTER V.

RADIO CONTROL IN MODERN WARFARE.

There is no branch of science that has made more rapid strides within the past twenty years than that connected with electricity and its application to the transmission of messages by telephone, telegraph and wireless. The world is now girdled by wires and circled by wireless waves, carrying man's messages. Another very radical and important development in electrical science is that of radio control. One of the essential departments of modern warfare is that connected with intelligence. This requires the use of field telephones, both wire and wireless; regular wireless connection and all of the methods of physical signaling that have been developed throughout the ages. Of them all radio control is the most important.

In the war which involves millions of men and covers vast areas giving in some instances a battle line of from 1,000 to 1,200 miles front, such as that running from Riga to the Black Sea, every character of ground is encountered and every feature of war is developed. Communications must be maintained by resort to all devices and appliances.

For this reason the modern army and naval officers are giving close attention to the question of electricity and its direct application to their undertakings. They find that waves transmitted

by wireless telephone and by raido are the ideal methods.

It now appears that the electric wave in the years to come is to be made one of the determining factors in war. This imposes upon a nation which occupies a prime position the necessity of developing this agency to its utmost capacity.

Radio activity in war will be utilized by nations that seek aggrandizement on land or sea in the next war or, it may be, in the continuation of the present. Those who are interested and vitally involved in effecting a world peace must, themselves, provide an adequate means for using radio energy and in combatting its use by their enemies.

We find that the cross comes down to us as the symbol of Christianity, but that it was originally the Roman means for inflicting capital punishment and corresponds to our gallows and electric chair; the guillotine of France or the headsman's axe of Great Britain. The world has adopted the cross as the sign of Christianity which stands in direct antithesis to murder and arbitrary power.

So in the future the sign or symbol of the International Peace League might well be that of the sheaf of sparks indicative of electricity and suggestive of the higher development of man's control of nature by radio wave. Today radio is an agency of destruction. But if it is symbolized and used by the united world against a state which reverted to individual barbarism, it will be paying just tribute to science. It is certain that the wars of the future must be fought and won more by the use of scientific means than by individual conflict between combatants.

If it were not for the fact that the present war is one primarily of scientific development the mortality lists would be still more horrifying than they are. But for the fact that high power projectiles and air-craft spread the battle lines of armies apart until the siege guns of the combatants are from eight to twelve miles back of their own first line trenches, the day's toll in dead and wounded would be staggering. It is the exception when there is only a narrow strip of land separating foes. The usual battle lines have been forced miles apart by the hands of science.

As it is, statistics show that considering the number of men engaged, the mortality and casualties are smaller in the present war than in the past. The greatest slaughter on battlefields has occurred when men met face to face with sword and shield to fight from sunrise to sunset in individual, mortal combat.

It is, therefore, well for the United States to bend every possible effort to the development of radio control of torpedoes, air-craft, mines and for the detonating of magazines in approaching ships and in the forts of the enemies. War is strictly a business of exterminating the armed forces of an opponent and any instrumentality that can be used for this purpose is legitimate. The heavier the blows and the greater the destruction of the enemy, the quicker is peace secured.

It is because the Teutonic Allies have lost sight of the fact that war must be waged between the armed forces of nations and have turned their engines of destruction upon non-combatants and neutrals, that the hideous records of the past two years have been scored and stand as a blot against the human race.

The nations of the world that join in the peace compact must take every precaution to prevent the unchecked use of radio mechanisms just as they now police their cities, towns and territories to suppress individual vandalism and crime. When the prime nations of the world and their lesser associates join in a peace league it will be proper to enforce, as one of its requirements, that no military use be made of radio control by individual nations and that this instrumentality be entirely limited to the defensive use of the league.

Any evidence showing that a nation was secretly evolving plans for the use of military mechanisms based on radio controlled waves would be sufficient to bring drastic action from the peace league. Now is the time for the peace-loving nations to frame such international laws as will prevent any militant nation from placing itself in control of the radio wave as this is destined to be one of the world's greatest military weapons.

Those who are investigating and making the closest scientific research and experimentation with electricity declare that it is perfectly feasible for a radio station to control the movements of submerged torpedoes, surface torpedoes or light draught surface ships and move miniature submarines. Radio, it is declared, is capable of use in the air. It will soon be possible for air-craft, scientists announce, to be propelled and guided and their offensive armament used by control from land, for great distances from a central station.

When the unusual developments of the past fifty years are considered it will be seen that the statesman-

ship of the early Nineteenth Century did not comprehend the possibilities that were latent in electricity. Nothing has been written in our international laws that properly curbed or controlled the use of trans-oceanic cables for transmitting messages from one continent to another; nor for the control of the telegraph, telephone and more recently of wireless transmission.

Now the futile efforts of a nation to prevent the inter-communication of its enemies is seen in the daily messages that are flashed from the Eiffel Tower in Paris across Belgium and Germany to Russia. German science is impotent to check or intercept the messages passed through the air in defiance of edicts and imprecations.

Great Britain has moved her navies on all the oceans and on all the seas of the world with as much ease as a player would shift men on a chess-board, because of the complete development of wireless communication and uninterrupted cable service. The progress of the world in this regard has had no more striking illustration than in the facts that Japan declared war upon Germany by a cable message and the United States notified Germany of the severance of our diplomatic relations by this modern agency.

How different from the methods of the past when ambassadors were returned to their native lands and months elapsed before the slow-moving galleys or the fickle-moving sailing ships returned from the lands of an enemy to bring the message that war had been declared.

The instant declaration of war which can now be transmitted through ether imposes upon every nation

the necessity for quick defense . Applying this to the United States it makes obligatory the development of our army and navy and our resources; it compels us to seek an intensive development of scientific methods for protection and offense in common with the peace-loving nations.

The world must be re-organized to prevent any nation again perfecting methods of warfare over periods of years and increasing its armament to inordinate degree. This must be accomplished by the enforcement of a rotary staff of officers representing the high contracting nations. The interchange of commanders and the staffs and the minute investigation of the plans, equipment and personnel of the several nations should make impossible the surreptitious and intensive development of armed forces by any nation or group of nations.

This will be the basis upon which ultimate world peace will depend. Mankind is not ready for the drastic step of immediate disarmament of all nations, which a few men are united in declaring would be the wise course to follow. An international peace league offers the practical alternative.

Any nation refusing to extend the privilege of a full and free examination of its armed forces would at once awaken the suspicion of the peace nations and would be forced to comply in the same manner that a felon is now compelled to obey the civil law of the community in which he lives. When he is apprehended he is made to pay the penalty for his crime.

The united desire of the 1,500,000,000 inhabitants of the world to live in peace and tranquility and to form a universal peace league must be recognized as

paramount to any personal wish or aim of an individual monarch or of a nation to secure greater power and to exercise unrestricted force. Radio control, which is now one of the world's most ominous agencies, may become its ultimate salvation; so it behooves the United States to acquire proficiency in its use while the world is still seething in unchecked carnage. We will use our power for our own safety and the freedom of the world.

CHAPTER VI.

ORGANIZATION OF UNITED STATES ARMY ON MODERN BASIS.

After sifting all of the plans which have been made by members of the military committees of the House of Representatives and the Senate, by the general staff of the army, by the army college and by state militia officials and writers on military affairs, it would be difficult for an unprejudiced citizen to arrive at any clear conception of what the needs of this country really are from the standpoint of an armed force.

Aggregate demands for an army of two million men with a reserve of three million, giving to the United States a total in its army of five million, expresses one extreme; another proposes a puny army of one hundred thousand—not enough to guard our posts and protect our borders. This is the idea of the pacifists, who believe that peace on earth is an accomplished fact.

The experience of the great world war has shown that not only the belligerents, but nations in Europe that have succeeded in keeping out of the actual conflict, have all been firmly established for generations on the basis of universal training or its equivalent.

The immunity of Switzerland from being rushed into the war on the side of the Allies or the Teutonic

Alliance is due to its compact and efficient army and the instant mobilization in 1914 to withstand invasion.

In the instance of Switzerland it may be noted that it is a nation without a navy and its whole dependence must be put upon its army. For more than a thousand years the valor of Swiss armies has been proverbial and the little Republic clinging to the Alps has been menaced by surrounding empires that had ten to twenty times the army that could be mustered under the flag of Switzerland.

That Holland has been able to retain its position of neutrality is one of the most remarkable incidents of the world war. Surrounded by nations that are in daily conflict both on land and sea, the dyke country has kept its German border and the line along Belgium which is now in possession of Germany inviolate so far as the large problems of neutrality are concerned. As to its sea coast Holland has adopted a vigorous and effective policy of interning any war vessels that enter her territorial waters for protracted stay. This has fallen heavily upon both belligerents.

English and French naval vessels have been stranded on the Holland coast and numerous vessels of the German navy have either been towed into Holland ports for succor or have been interned where they have presumed to over-stay the prescribed time in the interdicted waters.

Denmark, Norway and Sweden are examples of countries that are under the cloud of war, and still, because of their field armies and national military training policy, are saved from being dragged into active combat.

With the United States the policy of our people

is against large standing armies and we have always depended upon raising the necessary force to meet our enemies by a call for volunteers. This has been a problem which, if we put full credence in our school history, was an easy affair; but which, in reality, resulted in the humiliating circumstances of forcing the republic to resort to drafting in order to get the necessary military force under arms in every war, except that with Spain in 1898. In the Civil War the need arose for drafting and the draft riots and injustices of bounty-jumping are a blemish on our history.

To obviate all of these conditions and to place the United States in line with all others that claim to be in the first class, we should adopt the universal military training policy.

Whether it will include youths from 19 to 21 who are physically fit for military service or whether the age will be at some other limit and the term of service will be one year or more are matters of detail. The manhood of this country demands that armies shall not be recruited from the gutters by puerile lithograph appeals and cooing words from recruiting sergeants, but that the stern duty of American citizenship shall be universally recognized and the necessary quota for our armed forces be raised by having all youths of a given age who are physically fit brought under military training.

This would at once divest the military service problem of any sectionalism. The millionaire's son, as well as the son of the farmer, or the mechanic, the clerk or professional man, will one and all be brought under the orders of the flag to do their share in keeping America always efficient and always prepared to

defend peace and thus assure the public against assault.

Such organization of the army and navy should be made as to place on the active list those best suited to perform the necessary duties and all who undergo examinations and are found deficient in any requirements should be registered and held in a class, as ultimate reserves.

These men should constitute a class, by taking a special oath of fealty to the nation and who would be specifically pledged against engaging in any act that can militate in any way against the Federal or State governments. This would make the entire manhood of the country subject to proper military supervision and still keep it free from irksome surveillance, which is the chief objection to the European system.

Refusal on the part of any citizen to act, who is found eligible, would be treason and in any case of citizens not subject to active military service refusal to perform reasonable acts for the country would be seditious.

By Federal enactment it could be provided that in time of war an immediate order for mobilization could go into automatic effect placing such citizens on land and all persons on the vessels of the United States under military jurisdiction.

The mechanical organization of the United States army must undergo a decided change. The old formation of infantry regiments into twelve companies with a quota of 108 officers and men, of which there are three commissioned officers, 12 non-commissioned officers and 93 riflemen, is as ineffective as would be an old-time Roman phalanx.

The massive field armies that have operated in Europe and the manoeuvres which have been undertaken called for formations where hundreds of thousands of men were used, where previously fifty to a hundred thousand men were regarded as a huge force.

Modern means of communication, including motors, railways, steamships, the instrumentalities of the telephone, telegraph and wireless extend a field of operation until it spreads over hundreds of square miles and takes field armies from three to ten times as great as in the days when all armies had to move on their feet.

The proper organization of the army should embrace a new regimental field unit. This should include an organization of approximately five thousand men and include riflemen, cavalrymen, artillerymen, signal corps, medical corps, ordnance staff, commissary staff, aviation corps and transportation staff. The complete details of such an organization would require the technical co-operation of all of the bureaus of the army with some of the interlocking bureaus of the navy and civilian reserve.

In this book it is only necessary to point out that with an army unit constituted on the lines suggested above a force of five thousand men could move into action with all of the branches of the service that are essential to protection, and to its assuming the offensive.

Today the military force is blind if it has not an efficient aerial contingent. It is dumb if it has not a properly equipped signal corps. It is halt if it has not a properly organized transportation equipment. A military force today taking the field is at the mercy of a properly equipped enemy if the riflemen who con-

stitute the backbone of all armies are not supported by the mobile branch of an efficient quota of cavalymen, and have not at their back a field artillery that is competent to throw the "curtain of fire" in front of the trenches and to project large calibre shells over their own lines and to the back lines of an enemy.

All of these contingencies arise in every modern engagement and it is little short of murder to send an infantry regiment into action without the proper accompanying support.

In the old days we had military posts when we were conducting desultory warfare against the Indians, which called for no greater organization than efficient cavalry regiments and meagre infantry forces to man the army posts. Our forts located in and around such cities as Boston, New York, Newport, Chicago, Leavenworth and the other armed posts have never presented any features of what may be termed modern army posts equipped in the same light as the enormous military establishments of Europe.

There is no need for building up military centres in America and the proper development of our army should be to co-operate with state militia on our borders and coasts, with the necessary field manoeuvring in the open country to give practice in large movements of brigades, divisions, army corps and grand army units. Such movements should test the commissary, transportation and military fitness of our regular army and the ability of state forces accommodating their actions to the regular army requirements.

The requirements of modern warfare call for such quantities of ammunition of all kinds that the question of industrial preparedness is tantamount to that

of the mobilization of men. It has been shown that twice during the world war Russian victory was checked by the lack of ammunition. The first tremendous drive that the Russian army made into Germany was abruptly checked by breakdown of their ordnance department. This was due to the fact that Russia was not a manufacturing nation and could not procure munitions from any other source than Japan and this required transportation over the seven-thousand-mile Trans-Siberian single-track railroad from Vladivostok.

Again in 1916 the shortage of ammunition brought General Bressiloff's campaign in the Carpathian passes to a stop and prevented the complete crushing of Austria-Hungary.

It is, therefore, necessary that the United States military officials should take into consideration the development of industrial plants capable of producing munitions in sufficient quantity to meet the requirements of armies that might aggregate 5,000,000 men and of a navy that would be on a par with that of Great Britain. The feasible way of accomplishing this is by having a portion of the regular army engineering staff allotted to work in such industrial plants as are executing contracts for the Federal Government or for any State military organizations.

The actual practice in operating in an industrial plant, not as an inspector, but as a producer, is something which will far exceed any theoretical instruction which could be gotten in West Point or from dabbling in laboratories, or in making an occasional cursory survey through munition plants, powder works or factories where the various accoutrements of the army are

made. The lesson of the world war for America is thoroughness. Our army needs it, our navy needs it, our industries need it. We have drifted through fifty years of prosperity since the close of the Civil War without feeling the menace of attack from without and within our borders we have had peace. Practically two generations have been immune from military service. The episode of the Spanish-American War, which arose suddenly, February 15th, 1898, by the sinking of the battleship Maine in Havana harbor, and which was virtually ended on July 4th, 1898, when Cervera's fleet was destroyed in Santiago harbor, Cuba, did not test the capability and temper of our people. Less than 300,000 men were under arms and our foe was incapable of offering serious resistance.

We now find ourselves as a nation of 110,000,000, with an army so inadequate that the policing of our border required the President to call upon the State militia, and in the summer of 1916 100,000 citizen soldiers were taken from their proper fields of peaceful activities to man our Rio Grande border against the furtive raids of a bandit.

With an adequate continental army of from 300,000 to 400,000 men, the United States would at all times be able to perform its own national duties and not be forced to call on the States for such service.

Universal military service solves this problem by keeping the quota of eligible youths in the service at from 300,000 to 400,000, and as they pass from one or two years' service into the reserve, there would at all times be an adequate force subject to the instant call of the President of the United States as commander in-chief of the army.

It is necessary that in times of peace and, certainly beginning now, Americans should learn to co-operate as the stern necessities of war have compelled the European nations to do. The safety of farmers, miners, ranchmen and all those engaged in manufacturing is dependent upon their working in unison. Through co-operation the nation can be properly provided with the necessities of life during the war and our armed forces can be adequately served while a surplus can be created which will permit of our continuing our exports. Great Britain has demonstrated by her control of the sea that a nation of less than 50,000,000 people, when self-preservation is at stake, can bring to the support of the Government 5,000,000 volunteers and the mobilization of industrial forces so that this stupendous armed force can be made invincible and at the same time the daily wants of the nation can be safeguarded and the actual exports forced to an increase over times of peace.

The toll in lives, in wounded, in money, to unprepared Britannia has been staggering.

With this example before the United States the chart for our plan of preparedness is plain.

In place of having a disorganized and conflicting system of military service where regulars, militia and volunteers are thrown into jumbled combinations and where their officers have never before co-operated and where the tactics and manoeuvres employed are dissimilar and confusing, the armed land forces of the United States should all be brought under one control.

Governors of our several States should represent the commanders-in-chief of the forces within their borders that represent the State militia forces subject

strictly to State activity, the volunteer forces and the mobilization of the regular army reserves. This would give importance, power and immediate efficiency to the proclamations of Governors and at the one call of the President all of the State executives would act simultaneously and without the delay incident upon individual initiative or the impeding action of State legislatures. One man power is essential in conducting war. It is shown that the centralization of power in Europe by the appointment of a minister of munitions, a minister of food distribution and the various other ministerial heads, who are clothed with plenary power, immediately stops the chaos which follows in the trail of a declaration of war.

By previous organization the proper men in each department of the army would be clothed with the authority to put certain rules into force and through having the Governors of the various States, the responsible spokesmen for their States, under Federal commissions, a great mass of detail would be taken from the regular army staff.

The unification of commercial, financial and social organizations with the armed forces of the nation is a matter which must be evolved in time of peace, if disastrous confusion is to be avoided when the need for action arises.

It is no longer possible for pacifists to proclaim that peace is universal and that no war will ever again devastate this or other countries. The dream of universal peace is a commendable one to hold, but the realities of war have to be faced. America is essentially a nation of peace-loving citizens, whose charter is an institution granting freedom of thought and the

pursuit of happiness as its cardinal principles. Such a nation which can right its own wrongs by the free vote of its people can never be a menace to itself or others. Its highest duty is not to sink into a state of effeminacy or to remain as utterly unprepared as we are at present, but to face the future with manful courage, willing to pay the price in universal personal service and in money that will give us complete assurance from assault through adequate preparedness for defense.

CHAPTER VII.

ORGANIZATION OF THE UNITED STATES NAVY ON MODERN BASIS.

There are certain facts before the American people regarding the navy which cannot be overlooked. Chief among these is that our system of recruiting for the service is ineffective. We have vessels laid up because of our inability to get crews. We have ships building for which, when they are prepared to go into commission, there will be but a partial quota of men in readiness. With our nearly sixty thousand men in the personnel of the navy, we find that the operation of this department is impaired. We need more officers, more men. It is clear that with the programme of navy preparedness that has been approved by Congress and the further expansion of the service which is embodied in proposed bills, the status of our navy in the near future should be upon the basis of at least thirty thousand officers and one hundred and seventy thousand enlisted men. Universal service is the feasible method of recruiting for the navy as well as the army. A proportionate number of all eligibles should be selected for each branch of the service.

Recruiting for a naval service that offers the remarkable advantages that appertain to the U. S. navy should not be an insuperable task. The service should be made attractive to live, ambitious, free-thinking

American youths and to accomplish this it should include courses of instruction adapted to all men in the service. Those who care to take up technical courses should be encouraged, but, one and all, the men of the navy should be given some manual or scientific course of instruction so that the time spent in serving the nation would be doubly improved.

It is now clear in the minds of all men who are viewing the position of the United States in its proper light, that our mercantile marine must be increased. There is no better school in which to train men for the mercantile service than in our navy. Men would come from an enlistment in the navy thoroughly disciplined as seamen, properly instructed in the matters of physical hygiene, benefited by world travel and, through vocational instruction, equipped with a trade or profession to depend upon in entering civil life. Attractive positions will be open for all who pass into the reserve from the navy if our mercantile fleets are increased, as necessity now seems to make sure will be the case. Great Britain in 1914 had four thousand merchant ships, supported by four hundred naval vessels. There is our guide.

Our laws should be so shaped as to make the navy the school for all young men who seek the sea as a means of livelihood. In place of feeling that two or three years' service in the navy is a task or time but poorly occupied, it should be regarded as next to the prize of being appointed to Annapolis, to which the youth of the country from all States, inland as well as coastal, would have free opportunity to serve the country and acquire valuable instruction.

Our navigation laws should be so adjusted as to

make it possible for us to build a great commercial fleet, because this is the backbone of a navy. The experiences in the present world war show that Great Britain's sea supremacy rests largely upon her merchant ships and the shipping from other countries that she can command, through the protection of her high sea fleets of battleships. If it were not for the endless supply of food, munitions and general merchandise that keeps pouring into the British Isles, and to her allies from the ships that fly the British merchant flag and the thousands of neutral ships that make her ports, the English navy could not continue its blockade of the North Sea, for the necessities of existence for the island empire would force an ignominious peace.

The history of naval conflict from the earliest ages down to the present has been one that has shown in every instance that as a complement to the armed ships of a nation there must be an adequate number of merchant ships.

We need in the reorganization of the United States Navy a more sympathetic feeling between naval officers and mercantile marine officers. It is one fundamental weakness of our service that naval officers are inclined to stand aloof from civilians. This should be rectified by having each navy yard and station open as a school for navigation and for instruction in ship-building and citizens permitted to enter classes of instruction, and come under the teaching of commissioned officers. In such schools, conducted under the guidance of the Federal Government, the State naval reserve officers should also participate, so that they, too, could imbibe naval instruction from officers of the line and in turn be better equipped to instruct those

under their immediate command. There should be a more strenuous effort made to attract recruits to the navy until such time as universal service systematically furnishes the proper quota.

Throughout the country educational and vocational courses in many lines of business are obtainable at a moderate fee and lecture courses are given that help to prepare men for advancement in life. These should serve as the model for the naval instruction schools.

In this Republic there is no such thing as a military class or as a ruling class. We are a united people and our officers in whatever branch of service should be glad of an opportunity to "rub shoulders" with their fellow citizens. It must not be forgotten that Peter the Great assumed the humble position of a ship carpenter and learned the trade of shipbuilding before he assumed the duty of leading the Russian Empire to its greatest triumphs.

The basis upon which the navy should be organized is that of a modern high sea unit. This requires that the complement of ships in a given unit should include prime battleships of the dreadnaught type, battleships, battle-cruisers, scout-cruisers, torpedo boat destroyers, torpedo boats, submarines, colliers, mine layers, mine sweepers, miscellaneous harbor craft, including floating dry docks, cranes, tank ships, troop ships, hospital ships, supply ships, repair ships, hydroplane fleet and tenders.

Such a fleet would be complete in itself if stationed in Boston, New York, Chesapeake Bay, Key West, Panama Canal, San Francisco, Manila, or at any other of our naval stations or vital points of defense.

Such a development of the navy is along the lines of common sense that would be followed by the executives of an industrial organization. They would not think of having a factory located in San Francisco for the manufacture of a product and find that, after spending several million dollars for the site and buildings and the installation of the machinery, there was no supply of the raw material needed by them to produce their finished product.

This is comparable with the situation which arises in the navy when the naval committees in the House and Senate pass appropriations and authorize Secretaries of the Navy to build first line battleships and other vessels on a disproportionate programme. We have as the sad result of this chaotic method of naval development that has been followed for fifty years, a navy which, while excellent in its individual units, is incapacitated from performing the duties of a high sea fleet, because of lack in many essentials of equipment, shortage of men and navy yard facilities.

To have a score or more of major battleships leave our harbor unaccompanied by the necessary minor vessels for protection and for maintenance is as much an evidence of incapacity as the case of the manufacturer who builds his plant and equips it only to find that he cannot produce goods for lack of material. We are told by experts that much of our naval appropriations are spent on types of ships which do not meet modern requirements. Again we are told that the armament we use is not the kind approved by modern experience in the great navies of the world.

In the last analysis it seems to be the sensible

thing for the members of the House and Senate and the naval officials, including the Secretary of the Navy, to determine upon a definite plan of development and aim at a result which will give us a series of complete naval units, in sequence, and discontinue the policy of haphazard addition to the navy. It would be better to have two or three units than to have a scattered equipment that in no one spot was capable of reaching full efficiency.

Associated with the actual construction of ships is the important matter of harbor defenses and harbor approaches. It is fruitless to build a great naval vessel at a cost of from \$10,000,000 to \$15,000,000, or to propose, as has been done, the building of a mammoth ship of 80,000 tons, three times the size of any naval ship afloat and to cost \$50,000,000, when there is not a single harbor in the United States or in any of our possessions where such a ship could enter or where it could be accommodated for repairs. This is a frantic effort at accomplishing naval supremacy on paper, but it does not strike the mark.

The need of the United States is as urgent for a mercantile marine as it is for warships, and just as in our naval service our development has been lopsided, so in the matter of mercantile craft, our aim has been for fast mail and passenger steamers. These are the glittering examples that flatter our pride and therefore appeal to our imagination. The backbone of the mercantile service is the modest freighter of from 5 to 15 tons capacity. Supplementing these must be colliers, supply ships, tank ships, floating dry docks, repair ships, hospital ships and the minor flotilla of tugs, scout ships, mine sweepers and miscellaneous harbor

craft attached to the Naval Reserve, as distinguished from the vessels of the navy.

It seems incomprehensible that the United States, now the greatest export nation in the world and with a population of more than 110,000,000, who are the greatest earners and spenders in the world, should be totally unprepared to handle our own international carrying service.

One of the requirements of the United States navy is that it shall be able at any time to send one or more invincible high sea fleets into action to protect our insular possessions or to vindicate our position as a prime nation by convoying our merchantmen or carrying war to our enemies. To accomplish this the navy must be standardized and its equipment must be complete. To read the voluminous records of the department and to find that we have navy yards that are so far behind in equipment that they could not be used to repair a modern ship, having neither dry docks, cranes or other necessary machinery for handling modern armament, seems incredible. Yet it is the truth.

The requirements of the present era make it necessary for nations that have heretofore drifted along the quiet waters of peaceful commerce, indifferent to the action of European nations and Asiatic nations, to assume positions of great naval strength. We must as the chief peace-loving nation of the world make our navy something more than the great white fleet that has pleased our eyes in our harbors on gala occasions, but which we know is made partially incapable of effective action by reason of ill-advised development.

The great battles on sea that have been fought in the past have been won by the nations that were in possession of the strongest fleets of merchant ships and which had an adequate and well-balanced naval service. Leadership has passed from Greece to Italy, from Italy to Spain, from Spain to Portugal, from Portugal to Holland, from Holland to Great Britain. In the matter of 3,000 years the ships that sail the seas developed from canoes and galleys to sailing vessels, coal burners, oil burners and now the latest development is the electric-driven type. During the past thousand years Great Britain has striven for naval supremacy and for 300 years has enjoyed the distinction of being the greatest naval power in the world.

Our position in the matter of geographical location and natural resources makes it possible for the United States to speedily develop a mercantile marine and to construct a navy on lines that will bring us lasting independence in the matter of world trade and place us on an equality with or second only to the British Empire in the matter of naval power and mercantile importance.

Such an accomplishment cannot be attained if there is any lack of co-operation between the navy, our legislative departments, the Chief Executive or the citizens who engage in mercantile marine service as a means of livelihood. Any Congressman, Senator or citizen who wishes to be convinced that the methods which have prevailed for the past fifty years in relation to our navy and mercantile marine are ill-advised can get the evidence by checking up the number of officers in the navy, the number of enlisted men, the number of officers in the mercantile service, under United

States registry, the number of men in this service, and comparing them with the personnel represented by the other leading nations; and by considering the tonnage that is carried to and from American ports in domestic ships and that under foreign flags. When it is seen that we carry less than 9 per cent of our trade, the truth will be impressively learned. Our navy is inadequate to assume the duties that would fall upon it in the event of the United States resuming a dominant position as an ocean-carrying nation. The citizen or public official who will check up the ships that now constitute our navy and attempt to form them into high sea fleets in modern units with the necessary quota of all types of vessels and capable of finding harborage and safety in various stations, will see that steps must be taken during the present session of Congress to have our navy plans revised. There is no politics in this and the only opposition could come from those who are unfriendly to the United States and opposed to its becoming a nation prepared to regain peace through a capacity to conduct war for national defense.

CHAPTER VIII.

ORGANIZATION OF NAVAL RESERVE.

When the German government announced an extended war zone to become effective February 1st, 1917, and informed the neutral world that "all ships entering the barred zone would be subject to sinking without notice and without provision for the safety of passengers and crew," the last recognition of international law in its relation to sea transportation vanished. Nations had the alternative of acquiescing to the dictation of Germany and interning their merchant ships or of running the danger of loss of life and of vessels by entering the barred sea zone.

The arming of merchant vessels is a matter that is within the power of nations under the international law as it existed August 1, 1914, and any nation may exercise the privilege of placing defensive guns upon merchant ships without their losing the status of ships of commerce. After due consideration of the situation, President Wilson, on March 9, 1917, declared that under executive authority he would provide guns and gunners for American merchant ships, and thus uphold our rights, by means of armed neutrality.

As the situation affected the United States more seriously than any other neutral nation, it has intensified our interest in the matter of a naval reserve.

Unfortunately this country had permitted its ship-

ping to decline to such a point that less than nine per cent. of merchandise leaving and entering our ports was carried in ships of American registry in 1914. We now are in even worse straits. We find ourselves without an adequate force of seamen and navigators and a reserve of men familiar with seafaring. Such a body of men could not be drawn from our farms. The country no longer stands in a prominent place among the shipping nations of the world, and we have not properly educated any large percentage of our youth in the ways of the sea.

The only approximation we have had to training for our youths in matters relating to the navy and to the handling of ships has been through our naval reserve in a few coast States.

This organization has been of a patriotic order, representing volunteers who joined the service to learn under serious restrictions what they could of naval military tactics, seamanship, harbor and coast defense.

The naval reserve in its personnel is high and all of the officers and enlisted men are worthy of the esteem of their countrymen, but they lack the training which can only come from actual service on the high seas. Now that it is shown the United States needs an increased mercantile marine and a larger force in its navy, a logical step is to build up the naval reserve by recruiting from interior States as well as to call for enlistments from the States bordering on our coasts.

Schools of naval instruction should be established in all of our leading cities and particular effort should be made to get recruits from centers such as Chicago, St. Louis, Kansas City, Denver and the principal cities

in all of the States in the Mississippi Valley and in the Northwest and Southwest.

The defense of America is a matter of national importance and it should be viewed as a patriotic duty. State lines should vanish when a question affecting the welfare of the nation is involved, and if the naval reserve is expanded so as to provide nautical instruction to our youth under desirable terms, recruits should be secured from every county in every State in the Union. It has been said with a smile of derision, if not scorn, that the United States has become a nation of "land lubbers." How well this appellation fits can be judged from the fact that it is estimated from the records of vital statistics and from carefully kept records of insurance companies and employment bureaus, that less than one per cent. of the entire native-born population of the United States has ever stepped upon the deck of a sea-going vessel or been outside the three-mile limit on our coasts.

Seventy per cent. of our population, it is estimated, has never seen either the Atlantic or Pacific oceans or the great expanse of water in the Gulf of Mexico. In other words, their nautical experience has been limited to crossing rivers and dabbling in fishing-ponds.

How different was the situation in 1776 when with a population of only three millions of people, ninety-five per cent. lived along our Atlantic seacoast and they or their immediate ancestors had crossed the Atlantic Ocean in frail sailing vessels to reach this new asylum of liberty.

In 1861, of the 30,000,000 of people constituting the United States before the outbreak of the Civil War,

seventy-five per cent. still lived within easy reach of our Atlantic coast.

In 1917, with 110,000,000 of people, less than thirty per cent. live along our ocean fronts, and of these, owing to the constant decline in our shipping, merely an insignificant percentage follows the sea for a living. When it is considered that of our total native-born population less than one per cent. has ever been on the ocean either as sailors or as passengers, the pitiable situation of the United States as a maritime nation can be realized.

At the conclusion of the world war it is no longer a question of doubt that the several belligerents will conduct their trade with other nations according to agreements which will favor themselves and their allies in proportion to the shipping facilities each possesses. We must make a fair showing.

We are unprepared to care for our own foreign shipping. No effort that patriotic citizens can make at the present time and continue to exert can be too strenuous in the matter of awakening interest in shipping. The naval reserve should be brought to a point where at least one hundred thousand youths between eighteen and twenty-four years of age could be receiving nautical instruction from navy reserve officers throughout the country. As they become theoretically proficient they should be given practical instruction. Our decline in naval reserve forces has been in exact ratio with the withdrawal of our people from the coasts to inland sections of the United States.

Our loss in sea-carrying shipping has followed. We are a world power with possessions in the Atlantic and Pacific and on the borders of three continents, in

North America, South America and Asia. We cannot exist and be in possession of our freedom on the seas if we do not have a proper proportion of men who are familiar with, and engaged in, navigation. Our prosperity is not a matter solely depending upon the products of our farms, our mines or our mercantile activities. We must have markets for our surplus products and we are dependent upon the world for many raw materials which we use in manufacturing. For example, we are dependent upon Australia, China and Russia for the greater part of the wool which we use for our clothing and carpets. We might become self-supporting in this matter if we had an adequate protective tariff on wool, but as matters stand we have never produced more than half our requirements in wool. We are, too, completely dependent upon the importation of crude rubber to care for our rubber industry, which includes automobile tires and all of the miscellaneous trades to which rubber is essential.

So important is the matter of communication by sea that this country should have a Secretary of Marine in the Cabinet, the same as we have a Secretary of Agriculture and a Secretary of Commerce and Labor.

Under the control of the Secretary of Marine might well be placed general supervision of the naval reserve. He could well be the commander of the Naval Reserve with the several States reporting directly to him. This would make possible the organization of the mercantile marine on a basis where officers and men in the naval reserve could be assigned to merchant ships to acquire actual practice at sea in navigation and drill.

Our sea service could be made attractive by having the course of instruction arranged so that it would qualify those who enlisted to fill important positions after their term of service. With Great Britain raising her navy to a standing of five hundred thousand men and with at least 1,000,000 additional men engaged in sailing her fleet of merchant ships, it can be seen that she has a seaman power that will give her control of the sea at the close of the present war. If the United States is to become a world factor in shipping, it must increase its percentage of qualified officers and seamen for both the navy and the merchant service and no time should be lost in getting co-operation in all the States with the Federal Government upon a broad and sensible plan.

Connected with the naval reserve and as indispensable to its future is the question of shipbuilding. It will be found that our shipbuilders who have for fifty years been limited to building coastwise vessels and ships for our navy have now come into prominence and are receiving orders from foreign governments and foreign business firms. This is due to the urgent demand for tonnage throughout the world as a result of the war. The destruction of ships, the internment of all the merchant vessels of Germany and Austria-Hungary and the appliance of practically fifty per cent. of the tonnage of the Allies to activities connected with actual war has thrown a burden upon the remaining merchant tonnage that could not be adequately borne. The cost of constructing ships has jumped until shipyards are receiving as high as \$200 a ton where formerly ships had been built on a basis of \$40 a ton in foreign yards. This condition is due to

war and the costs have also greatly increased in foreign countries.

Japan as well as the United States is busy building ships. Our country, unfortunately for us, is building the greater percentage of vessels for foreign nations, chiefly for Norway and Great Britain. It will be found that American shipyards would eagerly embrace the opportunity of having naval reserve officers and enlisted men receive instruction in shipbuilding and be given an opportunity to watch the progressive steps in building vessels in their yards. It is appreciated by our shipbuilders that the American tonnage will never be increased unless ship operators can find men qualified to work under our strict seamen's laws. Many of these laws should be revised; but under all circumstances it is realized that American seamen will demand and should receive better wages, better food and better ship comforts than are given seamen under any other flag.

The question of how to get an adequate mercantile marine is not one of small moment, but involves the ultimate strength of our naval reserve and the power of our mercantile marine to cope with world competition in time of peace.

It embraces the question of our being able to respond to the strain of war now that the United States is engaged in a conflict calling for the full energy of the nation on sea as well as land.

Any mother or father should feel proud to have a son join the navy, naval reserve or enter the mercantile marine service. When America was producing its greatest men and writing the brightest pages in its history, its most brilliant sons were following the

sea. It was our redoubtable sea captains who carried American merchandise to China, Japan and the East Indies and wrested trade from the greatest of European and British competitors. It was the valor of our seamen that brought ultimate victory to us in all of our wars.

Unless a change of heart is made in America and our navy, naval reserve and mercantile service receive new life, the import and export business of this country will revert largely into the hands of foreigners. Our nine per cent. of tonnage will still further decline because it cannot compete under normal conditions after the war, under the restrictions of the La Follette seamen's act and the damaging competition that would come under the Ship Purchase Act.

It is estimated that by 1930 with more than one hundred and twenty-five million people in the United States less than twenty per cent. will live along our sea coasts. The salvation of our country, therefore, must depend upon an awakening of true American spirit among the millions who live in the interior. Self-interest with these people is as keen as with any one who dwells along our coast and who makes a living on the sea. It can be shown that the profits for our farmers in the sale of their produce and for manufacturers in the sale of their merchandise as well as the wages to all wage-earners, depend upon our ability to buy and sell abroad.

Where we have been satisfied, in the past fifty years, to allow foreigners to handle our shipping, it must now be clear to all minds that this must be done by Americans, in American ships, manned by officers and crews who are loyal to our flag.

It is significant to note that less than three per cent. of the emigrants who come to America ever make a return voyage. When they reach the United States they find a land blest by free government and they are content to call it home. It is because of this strong spirit in those who come to us from abroad and that dwells in the hearts of all those who are born under our flag, that the United States has drifted from a seafaring nation into one which is devoted almost exclusively to activities on land. The danger of this for our future is that it leaves us dependent upon those who at any time may be involved in foreign alliances and entanglements. Let the naval reserve be actively recruited and let every loyal American do his or her share in restoring the American flag to the high seas, to adorn a navy that shall be invincible and a merchant service that shall make the phrase "Made in America" familiar throughout the world.

CHAPTER IX.

ORGANIZATION OF HOSPITAL SERVICE.

There has been a wonderful demonstration of the humane instinct which impels Americans to respond quickly to the relief of sufferers throughout the world during the past two terrible years of conflict. This has found expression in the Red Cross service, in the Belgium Relief; in the Special Committees that have brought relief to the sufferers in Servia, Poland, Turkey and elsewhere on many battlefields and in many cases where the wounded prisoners of both belligerents have received impartial care. Following the strict injunction of President Wilson that we should remain neutral not only in the letter of the law but in spirit, this country has sent its relief ships and contributed money to all causes that appeal to the human heart. We have formed our views of the political aspects of the war, but for suffering humanity our sympathies have not stopped to ask the nationality of the individual.

In doing relief work we have earned the respect, the affection, of many nations.

Now that the war has been brought to a point where our entrance into the conflict has been forced upon us we must act to protect our rights and to safeguard the lives of our citizens. The question of charitable service now becomes one that concerns us at home.

The organization of an adequate hospital service for the United States in the event of our country raising an army of several millions of men and of having a navy and mercantile marine service that will call for several hundred thousand men, is a matter that cannot be accomplished over night. It requires most careful planning and many months of arduous effort on the part of professionally educated men, including physicians, surgeons, architects, engineers and general scientists.

The record of hospital service which has been made during the present world war is one of the redeeming features of this otherwise drab story of human disagreement and shocking carnage. Physicians in all the warring countries and volunteers from the United States, as well as other neutral countries, have flocked to the battle-lines of Europe, Asia and Africa to extend the hand of the Samaritan to the sufferers. The skill which has been shown in dealing with the casualties of the war exceeds the expectations which army surgeons and others connected with medicine had entertained from their previous studies of the possibilities of medicine and hygiene.

With more than twenty million men under arms and the territory of the countries invaded adding more than thirty million civilians to the numbers forced to live under the almost cave-age conditions of prehistoric man, it seems miraculous that no plague has swept Europe or any other theatre of war. When it is recalled that millions of men have now endured the rigors of three winter campaigns in the trenches and in the dug-outs and labyrinths in the hills of northern France and on the bleak marshes of the Russian fron-

tier, it is clear that this could not have been accomplished except through the perfect organization of the medical staff.

The health of soldiers in other wars has been regarded as a matter of secondary thought, whereas in the present world war it has been made one of the paramount considerations. Great Britain and her Allies have moved millions of men in crowded transports and have brought regiments from Australia, New Zealand, India, Canada and the scattered islands of the world, to throw these masses of men, unacclimated, into the battle-lines in Europe. This has been done with the minimum percentage of loss of life through avoidable illness.

The feat of the navy in protecting transports has been most remarkable, but an even higher record has been attained in the absence of pestilence among the armies and the navies of the belligerents. With the Teuton Allies the same skill has been shown in preserving the health of their field armies. They have been forced to conserve food and entire nations have been put upon a strict food regulation basis. The doling out of food to a nation in so strict a manner as in Germany and Austria-Hungary was never attempted before. But for this action, directed by the army, but inspired by the medical corps upon a scientific basis, the Teutonic Allies would probably have collapsed before the end of the second year of the war.

In the United States the organization of the hospital service must be effected along lines that will bring the full power of the State to bear. All colleges, whether medical, military or strictly scholastic, should embrace in their curriculum some phases of military

instruction so that students would have the rudimentary ideas of discipline, military organization and knowledge of how best to co-operate with the different branches of the army service of the nation in time of stress. In our medical colleges a comprehensive course in military and medical instruction should be obligatory. This would result in every graduate physician being potentially equipped to render advanced aid to the wounded in case of a serious war in which we had large field armies and a large quota of men in conflict and where the percentage of wounded became large. Army and navy surgeons should deliver, as part of their duty, lectures before medical student bodies and to graduate bodies. This would help to atone for the lax methods we have pursued in the past.

Our navy reserve surgeons should be instructed by actual drill, how to perform the necessary moves to handle men on battleships under conditions that would obtain in action. This means that when our high sea fleets are manoeuvred a drill be held in which naval surgeons and the naval reserve staff undergo a test of their ability to handle cases in the temporary hospitals below decks. In the mimic action the officers and seamen should bring in cases as if for actual treatment. Mere theorizing will never produce high executive ability in handling such matters and in well-regulated hospital service actual contact between physicians and wounded men must be more than studied from the hypothetical standpoint.

Our navy surgeons should be detailed to actual service in large city hospitals for a stated period when in home waters so as to acquire practical skill in treating emergency cases.

As to the development of the adequate hospital service on land the plans which the army and navy, the militia, naval reserve and volunteer organizations should develop must be co-related and should include hospital bases in our principal cities capable of accommodating emergency cases as brought in from both field hospitals or hospital ships.

On this score it would be wise, and certainly a feasible plan, to have in Boston an emergency hospital equipped to handle 10,000 cases; in New York an equipment for 25,000 cots; in Philadelphia 10,000; Washington 25,000, making the Washington hospital headquarters for the general hospital staff; in Baltimore 5,000 cots; in Wilmington, Del., 5,000 cots; in Jacksonville, Fla., 5,000; in Porto Rico 5,000; in Mobile 5,000; in New Orleans 5,000; in San Antonio, Tex., 5,000; in Los Angeles 5,000; in San Francisco 25,000. As San Francisco is the chief port of entry on the Pacific coast and would be the natural headquarters for the relief of our armies and navies acting on the continent in Alaska, Hawaii, the Philippines or our other possessions, this base should be as large as the one in New York. In Portland, Ore., 5,000; in Seattle, Wash., 5,000; in Hawaiian Islands 10,000; in Guam 5,000; in Manila 20,000; in Alaska 5,000; in Chicago 10,000; in St. Paul 5,000; in Detroit 5,000, and smaller hospitals in all other cities.

With hospitals in these and other cities in proportion to population or position the State militia, medical officers, the regular army, the naval reserve and volunteer civic organizations, would be able to conduct practical mobilization to test their efficiency. At monthly, quarterly or semi-annual periods general inspections

could be conducted to see if equipment and efficiency were sustained. In the base hospitals, as above suggested, necessary stores and field equipment for a state force and for the regular army, when on war footing, could be stored and all the materials could be kept in good condition. The forces of regular army officers and men attached to the hospitals would have practical work in hand.

These hospitals would at all times be available for emergencies as in the case of plague or of some catastrophe such as the San Francisco earthquake, the Galveston flood, or a devastating fire such as that which occurred in Baltimore. This nation with its wealth and with its people proud of their liberty and strong in their possession of the means for accumulating wealth greater than any other people in the world should not show a mean and parsimonious spirit towards safeguarding their homes and their country. Money expended for the proper organization of the hospital service would be put to excellent use. All of the hospitals under the military control could properly become centres for scientific research and advancement of the surgeons in the army or navy could properly be based upon a merit system for accomplishments in times of peace. This country should have as its minimum a system of military hospitals that would accommodate 200,000, and upon this when the emergency came the expansion could be made in an orderly and efficient manner to meet our maximum needs.

The great world war has shown that the methods of handling casualties on a battle-line has been worked out to a point of practical perfection. Immediately back of the trenches or the open field are the stretcher-

bearers who bring the wounded to the emergency field station where the first medical treatment is given. The wounded are then carried to a regimental hospital and then as fast as they can be transported they are taken back to brigade or division hospital headquarters, thence to the corps headquarters which are always many miles back of the fighting zone. From there in hospital trains those who are not seriously wounded are conveyed to base hospitals and recuperation camps.

Where an expeditionary force, such as England has had in France, is engaged the slightly wounded and the convalescent are brought back to their own country.

In our own case if we are so involved in the war as to have forces in foreign countries it will be necessary for us to have hospital ships to bring back our wounded and for this reason, as previously outlined, the medical staff should at all times co-operate with the navy so that surgeons attached to army organizations could render necessary service on board ship when accompanying wounded.

It has been shown that the best results are obtained by not having hospitals and convalescent camps in large cities. Now that we have the advantage of time in which to make the necessary selection of sites for hospitals and for camps, the work should be undertaken and all preliminary details cared for as insurance against the future.

A careful enrollment of those who desire to serve their country by acting as orderlies, nurses, ambulance drivers, stretcher-carriers, apothecary clerks, should be made so that definite facts would be in the possession of the chiefs of staff in the various hospital headquar-

ters. Provision should be made for an adequate supply of drugs and medical stores subject to instant requisition for the Federal needs. Army officers should be clothed with the authority in times of peace disturbance to see that a percentage of the stock of all wholesale druggists and manufacturers be held in reserve for this purpose the same as the Government is empowered to force national banks to hold a certain percentage of their money as a reserve.

There would be no serious business hardship entailed, but the great advantage to the Government would be immunity from having prices inordinately advanced on the cry of shortage of indispensable goods during the war.

To those who are inclined to pursue the records of the conduct of hospital cases in Europe and elsewhere in the present world war it will be shown that a smaller percentage of deaths has resulted from wounds than during any other war, considering the numbers involved. The infliction of serious wounds has been smaller owing to the reduced calibre of the rifles and the abolishment of soft lead bullets, generally termed "mushrooms." The recoveries of those slightly wounded have been the highest on record and of those who have suffered the loss of limbs or of some of their senses, the restoration of the patient to a point where he has become self-supporting has been most remarkable.

It has required skill and close application to attain this proficiency on the part of the regular army and navy surgeons and those volunteering for hospital work. The percentage of killed in action in the present war is unusually small. Those who have been saved

and passed on to recovery number more than in other great wars. The same wonderful record is shown in the base hospitals and in the recuperation camps. Even in the prison hospitals the Allies have exerted the utmost effort to prevent death from contagious diseases and to give as careful treatment to the enemy wounded as has been given to their own.

A final word may be said in regard to what true efficiency in hospital organization means. It is of record that following the Battle of the Somme, July 1, 1916, Great Britain transported her wounded soldiers from the battle-line in France to the English Channel, across the channel, and from Dover to London in forty-eight hours.

Until the United States can approximate this record and similar records achieved by France, Italy, Germany, Austria, Russia and the other nations, it behooves us to talk less and study more the needs of our country in the matter of preparedness for the great war in which we are engaged.

CHAPTER X.

ORGANIZING THE MUNITIONS SUPPLY.

It has been the proud declaration of the United States that it has remained a non-militant nation. By this is meant that it has not supported a large standing army or increased its naval equipment to inordinate proportions. Full dependence has been placed upon the citizen soldier to respond in emergencies for the defense of his country. While we remained distinctly a country without foreign possessions and free from any European or other foreign entanglements, through alliances or special treaties, we had no fear of assault from abroad and our armed forces were only needed to suppress Indian uprisings within our own territory and to police the Mexican border against bandit warfare.

With the acquisition of the Philippine Islands, Porto Rico, Guam, the naval station at Guantanamo, Cuba, and with our holding the Hawaiian Islands in the mid-Pacific, we have become, within the past twenty years, a world power and by this token have been compelled to view international questions from more than a provincial standpoint.

The basis of our independence rests upon our right to trade with all countries in matters of merchandise and to be free, at all times, to purchase arms and munitions when we need them for our own pur-

pose. The co-relative right to sell arms and munitions to any other country is ours and has always been freely exercised.

Since the opening of the world war in August, 1914, it has been an incident of the actual hostilities that the Entente Allies have swept Teutonic shipping from the seas and prevented the transportation of munitions and even of non-contraband merchandise to the Central Powers. We have maintained our right to ship to those who wish to purchase and as the Entente Allies hold full control of the seas they have been large purchasers of munitions from us, as well as of unlimited supplies of agricultural products, live stock and non-contraband manufactured goods.

Now that the American people are awakened to the importance of preparing to defend their rights and liberties the difficulties of an adequate munitions supply becomes of paramount importance. It was the lack of munitions that held the Allies back for the first two years of the war and which, even now, is preventing Russia, the greatest man-power factor in the Alliance, from attaining its full military strength. Great Britain has mobilized both men and women in the munition factories of the British Isles, and from Canada has also been able to draw enormous supplies of munitions. These added to what has been purchased from the United States have finally brought the British Empire into a position of adequate preparedness.

In the United States we have the iron ore, the steel mills, the copper ore and refineries and all the mechanical requirements for producing munitions in practically limitless quantity. The Federal Government has already taken steps to catalogue the manu-

facturing interests and to survey the raw material markets, and upwards of 30,000 manufacturing plants are capable of responding to the demand for munitions.

The next step is to see that the potential possibilities of our country are given concrete expression and that orders for the actual production of the various classes of munitions be distributed among manufacturers so that they and their operatives may become familiar with the production of given types of supplies.

It is the duty of all technical schools and colleges to include in their course instruction in the production of munitions, including the manufacture of small arms, ordnance, explosives and instruction as to the correlation of metals to the manufacturing trades. This would give our student bodies practical training during the most susceptible years of a man's life, as the majority of our under-graduates are from 18 to 24 years of age. When they entered business fields they would be equipped not only with theoretical and book knowledge but would know how the arts and crafts were joined in real business activities.

If our engineering schools and our alumni from such schools wish to show their patriotism it can be done by taking up supplementary courses that will equip men to take an active part in the event of the United States being forced to mobilize its entire industrial strength for the conduct of the great war. This would place us in the same position that Germany occupied before the war and where Great Britain, France, Italy, Russia and Japan have arrived under the pressure of mortal combat. In all of our industrial plants throughout the United States it would be well to have the foremen, superintendents and executive

officials give whatever instruction they can to their operatives so as to instil in the wage-earners an appreciation of the advantages they enjoy in the United States. These millions of operatives whose homes are here, whose children are mostly native-born Americans and whose destinies are indissolubly joined with ours, should be made to know that they are not called upon to act as automatons, but to be vital factors in the development and protection of the United States.

If co-operation is exercised much of the antagonism which now exists between capital and labor would vanish and several hundred thousand skilled operatives could soon be brought to a point of preparedness where they could render high service to their country through intensifying the production of our mills, foundries and various factories that will be taxed to supply the army and navy of the Republic.

Increased skill and proficiency acquired under such conditions would redound to their benefit in times of peace and make them eligible for advancement. This will place the United States in such a position that it will be invulnerable against commercial attacks from outside competitors when world peace is at last proclaimed and the armies of Europe and the other continents are disbanded and the pursuits of peace are again taken up by the millions who are on the firing line and others who are devoting their entire energy to producing munitions.

In connection with the organization of a munition supply adequate provision should be made for the storing of arms, munitions and accoutrements. The dangers from aerial attack are such that none of our old arsenals or reserve depots are safe and our en-

gineers should devise new types of buildings of subterranean structure to protect the reserve munition supplies as they are created. Close collaboration should exist between the engineering and manufacturing staffs engaged in producing munitions so that the chemists who are depended upon to produce modern explosives can do their best work.

As the theatre of war in Europe has spread over vast areas and involved a score of countries, it is apparent that modern military preparedness in America must view the possibilities of attack from either our Atlantic, Pacific or Gulf of Mexico coasts or from the Mexican or Canadian borders. This imposes upon the Federal Government the necessity of having munition reserves at scattered points and it should impel the practice of having our manoeuvres with the regular army, militia and volunteer organizations conducted over new ground each season, so that the results of actual practice and training under varying climatic and topographical conditions can be acquired.

This will prompt the several States to improve their roads and will put the burden of actual test upon our railroads and interior waterways in the matter of transportation. In the full development of a munitions supply this country will derive its greatest collateral benefit from the development of a self-sustaining drug and chemical industry and the production of constantly increasing supplies of fertilizer. This will help to solve the problem of the high cost of living as it would increase the productivity of our arable lands. It will be seen that the munitions problem is not solely one of producing shot and shell, but has wide ramifications that affect the entire population of the country.

CHAPTER XI.

ORGANIZING THE COMMISSARY.

Feeding an army and navy is the most important work connected with the military establishment outside of the actual use of forces in battle. No less an authority than Napoleon pronounced the dictum that "an army moves on its stomach." This means that unless the armed forces are properly fed they cannot perform their duties and maintain the field. Even in their dire straits Germany and her Allies continue to feed the armed forces on a normal diet.

It has become one of the cardinal principles in modern military tactics to provide sufficient nourishing food and pure drinking water for the army and navy and to allow no effort to be relaxed in keeping the supply uninterrupted. The Japanese won their war against Russia in 1905 by having their armies in Korea and Siberia well fed and always in fit physical condition.

The saddest experiences which we have had in American history have been those regarding the impoverishment of our soldiers in the field through inadequacy of the commissary department. This was the story during the Civil War and was the one black spot in the Spanish-American War. Even in the present mobilization of the army and the militia on the Mexican border our commissary had not perfected

the service so as to issue proper army rations for a torrid climate. The men sent to Texas were gathered from all sections of the United States and were not acclimated to living in a semi-tropical country. Still by adhering to the Army Blue Book regulations and doling out rations intended for soldiers operating in a temperate climate, the issuing of food was not well-balanced and if continued for any length of time would have resulted in the impairment of health.

Our commissary officers in the regular army, in the militia and those who would come into action under the volunteer service should have more than theoretical knowledge of the proper foods to provide for soldiers in varying climates. All exigencies of the service should be considered and the provision of the commissary be made in accordance with the field of activity in which the men move.

Modern science has made as great an advance in the matter of foods as in any branch of chemistry or mechanics and the old policy of issuing hardtack and bacon, black coffee and bread to soldiers, and but slightly varying this, is a method that has to be abandoned. With concentrated foods, with beef extracts, with condensed foods in liquid forms, with evaporated and powdered milk, with the increase of appreciation of the nutritive quality of rice, with the wonderful improvement that has been made in canning meats, armies may be supplied with a well-balanced ration and the health of the soldier maintained. The same is true when applied to those serving in the navy.

There should be zones in which the medical and scientific experts should determine that a certain dietary be made official and compulsory. When troops are

called to act in such a zone the commissary without guesswork or whim would be compelled to provide a certain class of food to constitute "rations."

It will be found that in this country packers and those engaged in producing our canned, preserved and concentrated foods will act in concert to provide the necessary supplies for the commissary. The days of sending field armies into territory to depend upon foraging as a means of sustenance are over. These methods too closely resemble the invasions of Barbarians than the method by which the recognized armed forces of one nation should war against the armed forces of an opponent. In plans for preparedness at the present time food depots on the Atlantic and Pacific coasts, along the Great Lakes and in the Gulf States should be created and army officers and proper representatives from the Agricultural Department should work in harmony so as to be familiarized with all details of the production and transportation of food products.

The medical staffs of all the great armies of Continental Europe and those operating in other fields are a unit in declaring that filtration of water is the chief reason for the minimizing of the death rate during the world war. The water that is used for cooking and drinking purposes in the field carries with it more danger than the bullet of the enemy. Typhoid and other dangerous fevers are contracted by drinking impure water. It should be one of the first compulsory duties of a commissary department to have an adequate supply of filtered water available. This should be accomplished by having proper portable filtration plants accompany the army in the field and the in-

stallation of large independent filtration plants in every army station, fort, concentration camp and army reservation of any character. This would provide against the sudden destruction of a municipal water supply and make the army completely independent.

So scientific has become the development of the commissary with its collateral provision for water that both the Entente Allies and the Teutonic Allies have in their establishments corps of officers and men devoted to the work of running water-pipe lines to within a short distance of the fighting lines. This is regarded as quite as essential as keeping the roads open for transport cars and wagons.

If the army of the United States which operated in Santiago, Cuba, in the Spanish-American War, had taken with it a complete water supply unit it would have been able to pipe a supply of pure water to the men investing Santiago and the heavy toll from fevers would have been avoided.

War imposes the supreme effort upon a State for its very existence and no step is too irksome or burdensome if it helps to assert sovereign power. No expense is too great to incur to accomplish victory. In the matter of a portable water filtration service an army of 2,000,000 men under modern conditions should be provided with at least 5,000 auto-filter tank cars of some one of the types which are now proving their serviceability on the battlefields of Europe.

In summing up the question of commissary it is well to remember that the United States is independent of foreign supply for any of the indispensable articles of food. This makes it all the more impera-

tive that we should not send our forces to fight on land or sea improperly provided with food or water. One of the reasons which is given for the great virility of Americans is that we are distinctly a meat-eating race. This has caused the creation of a wonderful system of handling meats and the refrigerating cars which are owned by the great packing concerns would place within the hands of the Government means for furnishing fresh meat to the army or navy in ample quantity. There is no spot in the United States that is not reached by cars of the refrigerating systems of the packing houses in Chicago, Kansas City, St. Louis, Omaha and the other central cities where the packing industries are located. America has ample supplies of beef, mutton and pork for its 110,000,000 of people and could never be starved out in the sense that Germany or Great Britain could be affected by a blockade. This is our strength and should be properly used by the commissary department.

CHAPTER XII.

ORGANIZATION OF TRANSPORTATION DEPARTMENT.

In a country of such magnificent distances as the United States, which has an ocean to ocean sweep of 3,000 miles and gulf to lakes expanse of more than 2,000 miles, transportation is the most important consideration, both from the military and civil point of view. The center of population of the United States is now creeping close to a direct line passing north and south through Chicago. This means that the movement of large bodies of troops would involve their transportation either by rail, water or motor vehicle for distances of 1,500 miles or more from the interior to our sea coasts and land borders.

Steps have been taken for mobilizing the facilities of our railroads, but the most recent demonstration of the ineffectiveness of this attempt of harmonizing railroad transportation and the necessities of the army was given in the movements of troops to the Mexican border during June and July, 1916, and their subsequent return to the various States from which they were summoned.

A central board having plenary power to commandeer railroad and steamship facilities is needed just as in Europe railroads are subject to complete domination in war time for the requirements of the

army. We have in this country a wonderful system of over 250,000 miles of railways, which is the greatest mileage of any country in the world and gives us first place in this respect. We have thousands of miles of navigable rivers and canals and highways that are susceptible of being made serviceable all the year round. Our highways should be constructed of concrete instead of macadam or other forms, such as dirt roads or other composition surfaces. Where concrete roads have been laid they remain good in any kind of weather and last from 5 to 12 years according to the severity of the traffic utilizing them. A network of such roads transversing the country north, south, east and west would help to solve the question of the high cost of living, as it would extend the area of direct haulage for farmers and make agricultural products available the year round, where now, for many months each year, the roads are impassable on account of mud. In times of war the clear concrete roads would facilitate the movement of troops, artillery and transport and allow of quick mobilization.

Connected with the Transportation Department must be a close association of our system of telephone, telegraph and wireless communication. All of these agencies, including railroads, steamships, canal boats, are privately owned instrumentalities which have been developed by the investments of the public and are operated under public franchise or corporate rights. There is no disposition on the part of American corporations and public utilities to impede the movements of the Government in times of distress any more than there is to do so in the days of peace and prosperity, and it will be found that a Federal Board of

Transportation will receive every co-operation possible from the various organizations and corporations that have charge of our means of communication.

It is imperative that all rolling stock should be indexed and a record kept of its location and availability for Government purposes. All army equipment should be made of standard gauge so that transport wagons, artillery caissons, tank cars and all automobile or motor trucks could be equipped with flange wheels, so they may be placed upon the rails and moved at a moderate speed in place of being stored on flat cars, as is now the custom. This would make available thousands of railway cars for use in moving accoutrements and supplies and would obviate the long delays at transfer depots near the front where single track roads only are available for moving trains.

Upon reaching a point near the front motor trucks and other vehicles that were placed on the rails would have their regular tires restored and could at once move off under their own power, or, in the case of transport wagons, have their mules and horses attached and be immediately available. Portable kitchens should also be constructed on standard gauge so that they, too, could be transported by trailing instead of being placed on cars.

It should be the course of common sense and reason to have army officers detailed to duty in railway executive offices and familiar with railroad inspection so that they would be thoroughly familiar with the duties and limitations of traffic. Navy officers should similarly be detailed to steamship executive offices and be thoroughly drilled in the matter of commercial steamship operation, including the problems of stow-

ing and unloading ships under all conditions of wharfage, harbor lighterage and open sea transfer. In a country that has millions of freight cars and the largest number of engines and passenger cars, it seems incredible that a plan cannot be devised that would embrace the allotment of old rolling stock to the regular army and to the State militia forces so that it could be properly repaired and made available as military reserve rolling stock. This could be done at a moderate cost and as military demand would be made only in an emergency the cars would serve their purpose and would not be drawn from regular commercial use, thus dislocating the regular course of commerce and causing the rapid increase in the price of commodities throughout the country. All rolling stock that came under the control of the Federal or State Governments could be marked "Property of U. S. A." and by gradual sequestration the full quota of rolling stock needed for military purposes could be acquired within a period of 5 to 7 years.

To show how important the matter of transportation is it may be noted that to move an infantry regiment as now constituted requires 64 day coaches and 22 baggage and freight cars. These have to be moved in from 5 to 6 sections. Delays on railways in moving troops great distances arise from the fact that a New Hampshire regiment, for example, moving to the Rio Grande has to traverse many States and the cars are gone from New Hampshire for a period of from 3 to 6 weeks. Under the plan of the Federal government and State militia owning their railway stock, the railroads would not be embarrassed by the loss of cars for long periods drawn from regular service.

In any modern engagement of our troops railroad transportation must include day coaches, sleepers, baggage cars, box cars, flat cars, tank cars, cattle cars, special trucks for transporting heavy artillery, armored cars, hospital cars, long-bodied flat cars for transporting aeroplanes and combination wrecking and snow-plow cars. These twelve types must be assembled and moved en bloc if a unit is to operate effectively. Such a systematic assembling of transportation facilities means perfect mobility and is the best assurance of successful action. It is little short of senile for the United States Government to rely upon the requisition of private motor trucks and automobiles, mules and horses for the carrying out of its military operations. The richest nation in the world, populated by 110,000,000 active and intelligent people, should evolve a plan of action for military defense that depends upon government-owned agencies and not the haphazard collection of nondescript equipment.

To enter the war with a million volunteers unequipped and undrilled and using a motley aggregation of livestock and rolling stock would place us on a par with the crusaders who traveled as a rabble from Europe to Palestine in the Dark Ages.

The transportation problem is one which is deserving of the attention of America's brainiest men and the Federal Government will find that friendly co-operation will be extended by the executives who have built, and who control, the greatest railway systems in the world. As necessity forces the United States into war let us be prepared to move our troops in an orderly and prompt manner and in keeping with the dignity of the world's greatest single power.

CHAPTER XIII.

ORGANIZING THE FUEL SUPPLY FOR ARMY AND NAVY.

In considering the events of the world war it is seen that one of the most serious checks to the operation of the Central Powers has been the curtailment of their supply of fuel, in coal, crude oil and gasoline. Italy and France have also been seriously crippled by the lack of regular supplies of fuel for their navy and to maintain their manufacturing plants. Great Britain has been in better shape than any of her Allies because of her wonderful control of ocean shipping and her native supplies of coal in England and Wales.

Applying this consideration to the United States it will be seen that we are a nation particularly blessed as we have the largest world deposit of anthracite coal in our Pennsylvania mining region; we have the greatest field of natural gas in the Ohio Valley and in parts of the Mississippi Valley and our supply of crude oil is the greatest in the world and is not confined to any one locality but runs from Pennsylvania, Ohio and Indiana to sections in Wyoming, Utah and Colorado, Texas, Oklahoma and finally in the California oil district the greatest wells in the world are now gushing. Our soft coal deposits are scattered throughout Ohio, West Virginia, Pennsyl-

vania, Alabama, Mississippi, Colorado and smaller deposits in other States. It will thus be seen that we are supplied in lavish measure with the essentials for fuel for our army and navy.

The transportation requirements for moving our troops on land can be amply cared for whether using coal or oil for fuel. These supplies are available on the Atlantic, Pacific, Gulf or Lake fronts. The pipe lines and seaboard refineries assure ample oil and gasoline; and the coal carrying railroads make it certain that the navy can be adequately supplied at home.

One of the lessons of the world war is that any nation pretending to occupy a position as a sea power must maintain naval bases on or near all of the continents where adequate supplies of men, munitions and provisions can be drawn upon.

The United States but recently entering the field of world politics has a wonderful chain of possessions. With our Atlantic coast as a basis for operations to the east and the Gulf of Mexico serving as a basis for the protection of the Panama and our Gulf stations, we have in addition a coaling station at Guantanamo, Cuba, which controls the Key West gateway to the Panama and the Gulf of Mexico. We are in possession of the Hawaiian Islands, the half way station across the Pacific, and have on the Asiatic coast the enormous territory embraced in the Philippine Islands. As a stepping stone between these two points is our Guam possession. On the Pacific coast we have our continental coast line including Washington, Oregon and California and to the north, Alaska. It becomes an imperative duty for the Federal Government to

create all of these vantage points into impregnable military depots.

A plan should be devised for the holding of a large reserve of oil, coal, navy stores, commissary stores, arms and munition at these points and the navy in its routine functions should be made to transport all material to distant stations. This would give the men of the navy excellent practice in what would be their duties in time of a blockade.

As to supply of fuel for the army it would chiefly constitute gasoline as the fuel for the railways needed in transportation would be provided for by the several transportation companies in the course of their regular operation. A plan should be provided for the instant acquirement of all gasoline in transit, in reserve and held by retailers, in this time of war so that price regulation may be accomplished and the Government put in position to retain as much for the nation's use as is deemed necessary at the outset, thus avoiding the possibility of a shortage at any place, at such a crucial time.

Those interested in bringing the American army and navy to a point of high proficiency would do well to encourage the improvement of crude oil burners and carburetors that can use kerosene. When motor cars, submarines and light motor boats can be operated by either gasoline or kerosene our fuel supply in this regard will practically be doubled.

Running parallel with the necessity of having a steady fuel supply for the actual needs of the army and navy is the provision for our industrial plants. When it is noted that more than thirty thousand

manufacturing concerns in the United States are already enrolled as capable of making some form of munitions, and that the needs of one hundred and ten million people in matters of daily life must be provided for, the question of the uninterrupted operation of industrial plants becomes one deserving of the most careful consideration. By careful advance study the proper allocation of supplies for army, navy and industrial requirements can be made, without causing unnecessary delays and break-downs in any direction. The United States virgin supplies of coal and oil that have not been utilized or even fully prospected and those under Government or State control, can always be called upon to bring up the needed production in the event of our being forced to use enormous quantities for an active navy and a large army in the field.

What is needed is closer co-operation between the Federal Government and business concerns rather than criticisms. The material is here, furnished by nature, and it only requires skill in producing and distributing it, to make the United States completely independent and fully prepared to meet emergencies.

CHAPTER XIV.

PROVIDING FOR MERCHANT MARINE SERVICE.

It has been the object of every nation that has had access to the sea to develop foreign commerce and to have a strong navy and a large mercantile marine under its flag. Our own country from its birth and through all the vicissitudes of the first eighty-five years of its existence to 1861 was known throughout the world as a powerful maritime country. Our seamen excelled in the manipulation of their craft and their voyages took them into every quarter of the globe. In our navy the officers and men were known for their individual valor and it was the prowess of our war frigates and few ships of the line that won us independence in the Revolution, secured our rights to the sea in the War of 1812 and brought victory to the Federal cause in the Civil War.

Yet today we have become a nation almost devoid of a mercantile marine. In comparison with our population and the extent of our territory, our shipping under the American flag is smaller in proportion than that possessed by any other first or second class nation.

Following the Civil War Americans devoted their attention to the revival of trade at home and to healing the scars left by the four years of civil strife. Drastic coastwise regulations were enforced to give

a total monopoly to our ships in the matter of interstate trading, in our territorial waters. This, however, was not a policy that served to build up the mercantile marine in its relations to foreign trade. Great Britain, Germany, France, Italy, Norway, Sweden, Belgium and Holland all engaged in a strenuous effort to acquire the business of transporting goods from Europe to this country and from here to foreign ports. As they offered to carry merchandise at a lower freight rate than American shippers could name, the business drifted into their hands.

Thus in a period of fifty years the American flag has gradually vanished from the sea except for the small percentage of passenger ships that ply the Atlantic and the few freighters that struggle against crushing foreign competition. As our youths grew to manhood they found seamanship to be an unattractive calling and but few engaged in it. So at the outbreak of the world war in 1914 we were at the low ebb in our mercantile marine history.

It is of great importance that men be recruited for the merchant-ship service and no effort should be spared by those who are sincerely interested in the future of the country to awaken the spirit of co-operation in the interior states so that Congressmen and Senators will regard measures affecting shipping in a broad and statesmanlike manner. We need improved harbors, better facilities for shipyards, adequate dry-docks on our coasts and in our distant possessions. Above all we need such a modification in existing Federal statutes as will give American ship owners an opportunity to operate their boats on a basis that will show a fair return for the money invested and

permit of their giving their seamen a wage that is in keeping with the American mode of living.

There appears to be but one way of accomplishing this and that is through some form of Federal encouragement either in a ship subsidy or in a preferential adjustment of taxes and fees. The one dominant fact before the nation is that our shipping tonnage must be increased in order to handle our foreign trade and that no partisanship must stand in the way of legislation that can aid to this end.

We can find \$25,000,000 at a time when the resources of the country are being mobilized for war, to be spent for acquiring the Danish West Indies. Of what good to us are these islands or any of our world possessions if they furnish shipping opportunities for foreigners, but are not made available to our own merchant marine? Let us make a new and determined start to control our own sea trade. This is the most direct way for the United States to assist in the world war, for it will assure our allies of food and munitions.

CHAPTER XV.

DEFENDING AND PATROLING OUR BORDERS AND COASTS.

It has frequently been asserted by critics of Americans that we are a nation of traders and are given over to the worship of the dollar. The records, however, show that when our imaginations are quickened, and our spirit of patriotism is stirred, we can convert our energy into such effective action that our enemies are crushed and victory gained no matter what the cost. From considering the question of national defense as one of purely theoretical speculation, the country from one end to the other is now awakened and the energy and ingenuity of our patriotic millions are concentrated on how to make the United States supreme in the matter of defense and competent to enter into offensive war.

The first thought of all of those engaged in our army and navy service and those associated with them on council boards is how to defend our coasts and secondarily how to guard our land borders.

With submarines and airships to contend with as new factors in warfare the old rules have to be set aside. Now that torpedoes are regarded as one of the most deadly weapons and can be projected from swift moving torpedo boats, lurking submarines or

dropped from aircraft, it necessitates that ingenuity be exerted to conceive adequate defense. Our harbor forts on the Atlantic coast, the Gulf of Mexico and the Pacific coast are types of obsolete military defense. We have used the earth works and the permanent buildings of our old harbor forts as the points for mounting modern artillery; yet the experience of the present war shows that masonry cannot withstand shell fire. In a night it was shown on the Belgian border that no permanent land batteries could stand against mobile siege guns. Therefore our fixed fortifications are really a liability instead of a military asset. It is clear that a shifting line of artillery mounted on trucks and capable of ready transfer must form the basis of coast defense. We need besides more heavy field artillery batteries and adequate forces for the regular army, in all departments; detachments from the naval stations and militia. The volunteer forces and the naval reserve, acting with whatever civil bodies such as police, fire department and other uniformed organizations that can be advantageously used, should form an auxiliary coast defense.

Immediately upon the threat of attack on any coast or on the border the Governors of States should swear in deputy sheriffs, constables, police and such other special officers as have been drilled in guarding water works, canals, railways, bridges, highways, public buildings, warehouses and other buildings of public importance. These forces and not military detachments should do the police work.

The problem of proper defense and patrol of our

country embraces a carefully devised plan of the Pacific coast, including the western approach to the Panama Canal, California, Oregon, Washington and Alaska. It should be the diplomatic purpose of the United States to acquire by purchase, grant or lease, control of the Gulf of Lower California and of the peninsula as this waterway and the peninsula would constitute an impregnable base on the Pacific coast for our fleets and afford a proper military and naval station for the erection of arsenals, ordnance works, shipyards, dry docks and training stations. Short railways leading to the gulf from California, Arizona and New Mexico would tap the oil and agricultural supplies of California, the mineral supplies of Arizona and New Mexico and back of these the transcontinental railroads that would bring all classes of munitions to the Pacific. The acquisition of this natural water haven would be on a par with Germany's possession of Helgoland and England's control of Gibraltar and the Suez. It would help make the Monroe Doctrine a fact instead of a pronunciamiento.

The defense of the Gulf of Mexico is our means of protecting the Mississippi Valley and its tributaries, which means all of the land between the Appalachian and the Rocky mountains. With our coasts properly defended the Mexican land border and the Canadian border would be problems of easy solution.

Those who will regard the future of the United States as a thing to be left to chance cannot be inspired with the proper spirit. We have assumed our place among nations, declared our intention to resist foreign aggrandizement in the western hemisphere and are in

duty bound to be prepared to give force to our words. Our record of good faith to all nations and our punctilious performance of an assumed duty in Cuba, are the best evidence that the world could ask that in anything we engage in our purpose will be unselfish and our aim to benefit not only ourselves but mankind. Under these conditions coast and border defense does not become a local matter but one which should command the consideration of Senators and Congressmen from every State and the undivided support of our people.

CHAPTER XVI.

ORGANIZING DRAFTS ON BASIS OF TWO YEARS' SERVICE.

Estimating the population of the United States at 110,000,000, we have a regular army of less than one-tenth of one per cent. of our citizens. With an effective force of less than 250,000 men the U. S. army cannot properly patrol our Mexican border and man our forts and army posts.

Our navy calls for less than 80,000 men or one to every thirteen hundred seventy-five of our population and our state militia, embracing about 100,000 effectives, equals less than one-tenth of one per cent. of our people. Our total armed forces are, therefore, less than 400,000 or in the ratio of one armed guardian to every 275 inhabitants. The inadequacy of such a force does not need to be debated. That the United States should adopt a universal military service basis was realized before the world war brought us into the position where we have armed for our self-protection.

It is estimated that there are available in the United States 21,000,000 men between the ages of 18 and 40 and from this number fully 4,000,000 will be found capable of performing military service. It should be the purpose of the army to organize upon a basis by which 400,000 youths who reach the age

of 20 or 21 each year will be brought under military training. The various plans for the term of service may be determined upon after careful consideration, but the soundness of the theory of recruiting the army by such a draft is too patent to require long debate by Congress or by the military authorities. Our people are showing their patriotism in every possible way and the young men in every state can be depended upon to serve with honor and not be brought under military control by duress.

We have no reserves similar to those in Germany, France, Austria and Italy or Great Britain. When our men in the regular army serve their enlistment they pass out of the service with a full and honorable discharge. This should be modified so as to have the men enroll each year and pass into the reserve after a period of two years' continuous service and two years in the first reserve. The United States cannot escape the impelling necessity of mobilizing its manhood for great military operations, and should enact a universal military training law. In the next five years it would create, under gradual and normal conditions, an army that would augment the present regular standing army by at least 400,000 recruits yearly, with an equal number passing out of active service after the second year.

By 1921 there would be upwards of 2,000,000 trained men in the United States as an adequate first line of defense. At the same time the navy should be recruited on a basis to bring it to the standing of 200,000. The yearly percentage of men joining the colors under a universal military service plan for the naval division should be approximately 50,000.

In making plans for the new drafts for army and navy under universal service adequate army equipment for field units should be accumulated so that in heavy field artillery, light artillery, signal service equipment, aviation corps, medical corps, commissary and foot soldiers, cavalry and base depot staff equipment, there would be on hand and available at camps, storehouses and magazines, a mobile equipment in readiness for instant use and with which the men were thoroughly familiar.

When the United States reaches a total population of 125,000,000 which, it is estimated, will be the growth of the country by 1924, we will be upon a war footing that would make this country the most powerful in the world in view of its native resources, its industrial activity and the number of its trained reservists. It would then have power to take the aggressive on sea as well as land against any foe.

In place of being an argument in behalf of war, adequate preparedness and the universal military service program is the best insurance the nation could have for permanent peace. Were we to reach a point where armed forces on land and sea totaled a million in the army and navy with a reserve of 4,000,000, in 1924 it would still represent but four per cent. of the population of the country as then estimated at 125,000,000. Certainly this would not be militaristic. Back of this army there should be an industrial force of 10,000,000 men trained in the production of munitions and unified in their various activities in all lines of industry, including agriculture, mining, manufacturing and transportation.

With the United States thus attaining its full de-

gree of preparedness by gradual stages over a period of years, the work would be done at the lowest cost in original outlay and could be maintained upon the most economical basis. Whether we are to be granted years to prepare or must reach our necessary military strength by a sudden and violent effort, depends not upon our wishes but the events of the world war. Prudence, based on the inherent love of our people for peace, should prompt us to lose no time in making the necessary start to reach armed preparedness as the best guarantee of restoring national peace. Let us adopt universal military training as the democratic method of performing our duty to home and country.

We are at war with the Teutonic Allies and must move as though the battles on land and sea were to be fought on our soil and off our coasts. Nothing but full preparedness will suffice.

CHAPTER XVII.

ORGANIZING FINANCIAL RESOURCES.

All war operations divide themselves into three co-ordinate parts. First, the raising, training and manoeuvring of men in the army and navy; second, the equipment and maintenance of armed forces, and third, the financing of the cost of war. All of these activities are controlled by the Government and are determined by the political power in each country.

In the United States we are governed by a Constitution that is given force through an executive department with the President as the Chief Executive, Commander-in-chief of the Army and Navy; Congress, composed of the Senate and the House of Representatives, and a judiciary, headed by the United States Supreme Court. These co-ordinating departments give initiative, direction and ultimate sanction to all activities.

In modern times the mobilization of the financial resources of a country is easier to accomplish than in earlier ages when means of communication were uncertain and gold and silver were looked upon as the only basis upon which to establish credit. The world war which has called for the issuance of nearly a hundred billion dollars in thirty-three months by all of the belligerents, and which has forced the neutrals

of Europe and elsewhere to mobilize their armies and navies and entail enormous expense, has been accomplished by the issuance of bonds, short term notes and the flotation of war emergency paper money.

At the outset of the war it was realized that with Great Britain, Russia, France and Japan allied, the probability of their victory was stronger than that the Teutonic Allies would triumph. This gave to the Entente Allies a stronger credit throughout the world than that enjoyed by Germany, Austria-Hungary or Turkey. The sale of war bonds by all of the Entente belligerents has been widespread and bankers in the United States have participated in the flotation of huge loans. When it was seen that the war would probably fulfill Lord Kitchener's prediction and extend over three years it was realized that prodigious efforts would have to be made to raise funds. Expenditures climbed until the belligerents were spending hundreds of millions of dollars a month and now it is estimated that Great Britain alone is expending thirty-five million dollars a day. Such staggering sums could not be provided for unless the resources of the Empires were drawn upon.

Gold has long since ceased to be the actual basis for credits and the good will of the Entente Allies together with the deposit of collateral, in the shape of American railway bonds and industrial stocks and securities, have been pledged. To the hundreds of millions and eventually to the billions of dollars that have been raised by the sale of bonds and notes, the belligerent nations have increased their revenues by imposing high tariff duties, internal revenue taxes, income taxes, corporation taxes, inheritance taxes and

miscellaneous tolls on the activities of their citizens as well as neutrals who trade with them. The issuance of emergency currency has also helped to fill the exchequers and the rehabilitation of silver as a medium for small currency has been resorted to.

In applying the lessons of the world war to American finance it can be stated that our bankers through their close association with Great Britain and her Allies have learned how to handle enormous bond issues and to sell the notes of foreign nations in this country. Further, through the activity of private American banking houses, hundreds of millions of dollars' worth of merchandise has been purchased and arrangements have been made for payment, part in cash and part in the bonds and notes of the belligerents, for munitions.

In our time of stress the United States now has a completely organized banking system under the Federal Reserve Act that will give immediate facility for the issuance of a bond offering by the Federal Government, by State governments and municipalities. To absorb such offerings there are the national banks, the state banks, our trust companies, the savings banks that are privileged to take State, municipal and Federal bonds and our private bankers. As a cap stone to all of these agencies there is the American public that can be reached by an appeal for direct popular subscriptions such as have been made in Great Britain and throughout Europe. On bonds of one hundred dollar denomination or smaller, popular subscription would be assured and the enormous increase of postal and savings bank deposits may be taken as an indication that Americans would turn to the government

war issue and absorb it instantly, at a moderate interest rate.

It is regarded as fortunate that the Federal banking laws which were poorly fitted for the rapidly growing needs of American commerce have been revised and that all of our States have adequate banking departments which give the people confidence in our financial institutions. In the absorption of any issuance of bonds of the Federal Government or the State governments the insurance companies will form one of the great avenues through which sales en bloc can be attained.

As to the facility of the Government to issue war emergency money it is more fortunately situated than any other government in the world. We have the large deposits of silver and, with Alaska and the products of our home mines, we are the greatest producers of gold in the world. These prime monetary metals place us where we would have actual coin to give stability to our paper issues. Besides these resources the credit of the United States would be good, just as that of the Allies has proven good, in the disposition of contracts for munitions and other war expenditures. Our great industrial organizations would be as ready to accept part payment in the notes of the United States as they have been to extend this credit to Great Britain and her Allies. Such a recourse would not have to be taken unless the United States was engaged in a life and death struggle in a war without allies.

However, it is a source of national good fortune and should be a matter of deep gratification that we are plentifully provided in natural reserves and also

have the necessary financial machinery for raising all funds necessary for the accomplishment of preparedness. If need be, we can get the money for carrying on war on any scale. Since the outbreak of the world war the United States has passed from a debtor nation to a creditor nation and our balance of trade runs into the billions. When the peace negotiations are settled it is estimated that the United States will be in possession of more gold than has ever been in the hands of any people before at one time, and that it will have billions of dollars of debts due to its people and that its trade dominance will make it a rival, if not a paramount factor, to Great Britain. Under these circumstances there is no occasion for any one to question the stability of the United States from a financial standpoint in the present war. We have discounted the sentimental, industrial and financial consequences and there is no occasion for a breakdown of our stock exchanges, financial institutions, commercial organizations or for the impairment of the credit of the Government. Co-operation and loyalty are the two factors that will keep the wheels of business turning.

CHAPTER XVIII.

PREPARING FOR NATIONAL PRICE CONTROL OF NECESSITIES.

One of the great advantages which will accrue to the entire world from the war, which now involves practically all nations, will come from the lessons of economy, thrift and efficiency which have been forced upon belligerents and neutrals during the many months of conflict. With the interruption of general communication and, in many instances, in its total paralysis, industrial nations were seriously hampered through the non-delivery of raw materials and other goods necessary for the conduct of their complicated industries. The United States was especially affected as the Entente Allies placed an embargo on wool, rubber and many other articles of indispensable value to our industries. Germany imposed a drastic embargo on the exportation of dyestuffs and only released goods in dribbles as a means of diplomatic conciliation, finally closing down even on this meagre supply.

With prices advanced on all commodities in the United States and with wage advances, the question of conserving our public resources became constantly more serious and, beginning in December, 1916, the problem of the high cost of living became so acute that Governors, mayors of large municipalities and the Federal Government began special investigations to as-

certain why such products as butter, eggs, flour and other commodities, including potatoes, onions and garden vegetables, continued to advance to unparalleled prices. While due allowance was given for shortage of crops on cereals and on some vegetables, it was realized that lack of proper means of distribution was at the bottom of the whole situation.

Investigators have come to the conclusion that a national bureau of price supervision should be organized so that it could be instantly operative in the event of the United States being involved in a serious war. This would provide for sub-committees in all distributing points who would report as to the quantity of merchandise available in their community and the average price covering a period of ten years, or more. The Government could then fix a proper price and compel its maintenance by all vendors in a given zone. This would not work to the disadvantage of those who were disposing of merchandise at a point far distant from the source of supply, but could be accomplished in much the same manner as the parcel post zones are established. In any regulation of the distribution of national necessities it would not require the superimposing of the rule of the nation in an irksome or confiscatory manner. Justice should be the guiding purpose and just as the full capacity of the Postoffice Department is available for the sender of a postal card or the smallest package by parcel post as it is to the banker who may desire to send bonds or actual cash by registered letter, the Bureau of Price Control should see that large shippers and retail purchasers should be given equal protection.

With this country, the greatest producer of wheat,

corn, oats, potatoes, hay, cotton, cotton seed oil products, sugar, rye, barley, beans, and producing abundant supplies of rice and other cereals, fruits and vegetables, there should be no such thing as famine in any section of the country. Where a shortage of food exists it is due to improper distribution, monopolistic hoarding or to down-right inefficiency.

Our supplies of gasoline, copper, lead, zinc, iron, steel products, lumber and fertilizers all come from limitless reserves provided in various sections of the country by nature, which makes this country industrially independent.

In the matter of providing dairy products, poultry and eggs, beef, pork, mutton and game, our country has made wonderful progress during the past fifty years. This has been due in great measure to the large packing organizations that have maintained their own refrigerating cars and other rolling stock. It has been, however, chiefly due to the scientific development of handling perishable goods by our express companies. These privately-owned organizations, operating over the entire railroad systems of the country, and throughout the world, have not limited their efforts to the carrying of merchandise as offered at their depots and collection stations, but have exercised sound business judgment in educating the farmers, fruit growers and general producers of all classes of edibles to depend upon express service for getting merchandise to a market. Radiating from every large center of population are railroads that extend into the rural districts and the express companies have established their offices along these lines and have been unfailing in their collection and prompt despatch of perishable merchan-

dise to profitable markets. The records of handling fruit shipments from Florida to the North Atlantic coast cities and from southern California to the Atlantic are unparalleled in transportation history. The same is true of the shipments of apples and other hardy fruits from the Northwest and the Pacific coast to points throughout the United States and to foreign countries.

All of this service has been built up under the guidance of executives who operate privately-owned utilities. These men have solved the problems and have done so under stress of public criticism and governmental restriction. They have performed great service to the country and today the lessons which they have learned through hard experience are available in the matter of establishing plans for price control.

We have abundant fisheries and the work of the various States with the Federal Government and municipalities should be centralized in the matter of formulating proper rules for price control of fresh and preserved fish.

At this time, instead of working at odds, all executives, who have experience in transportation and in handling business for the public, should be invited to co-operate with the representatives of the people in formulating the best plans in the shortest time.

CHAPTER XIX.

NATIONAL CONTROL OF LABOR.

It often takes a national calamity or crisis to awaken the thought of a people on questions affecting their social welfare. No instance of this has been more graphically impressed upon the minds of the public than that connected with the eight hour railroad regulation law, known as the Adamson Act, which was rushed through Congress in the heat of the political campaign in 1916 to become operative within forty-eight hours after it was first promulgated in the House of Representatives. This was "steam roller" legislation and has had its re-action. People who gave little thought to what militant unionism meant were startled to know that the representatives of four unions could compel an unconditional surrender of the Government under threat of a universal railroad strike.

In the months which have intervened since August, 1916, it has been shown that in place of labor and capital coming closer together they are drifting apart and that the issue must be squarely met as to whether the Government, representing the people as a whole, or unionism, representing a distinct and thoroughly organized minority, is to control.

The United States Supreme Court decision, on a divided vote of 5 to 4, has declared the Adamson Act

constitutional, as an emergency move to avert national paralysis of our transportation service.

The United States Government has the power of eminent domain by which it can take possession with adequate compensation of any property or instrumentality. It has the right as a sovereign to demand the personal service of any citizen. Under these two cardinal powers the regulation of labor can be accomplished. In applying its supreme power the Government is able to collect taxes and impose all necessary regulations for the orderly conduct of the will of the people and the peace of the State. It, therefore, is not a matter of debate as to the right of the Federal government to control labor when unions attempt to overstep the freedom which their members, together with all other citizens, are entitled to enjoy in common.

In an emergency a United States Bureau for the Control of Labor should be clothed with full power to regulate wages, conditions and hours of employment; these might be based upon an average wage of the two years immediately preceding the date of governmental action.

In any industry that is subject to strikes the Government should be empowered to at once declare the "open shop" policy to be operative and extend full protection to new operatives who apply for work. Provision should be made for setting aside any restrictions or union regulations that now prohibit women from entering various lines of work. This was found to be one of the most serious drawbacks in Great Britain, Germany, France and Italy at the outbreak of the war. When the manpower of these nations was shown to be inadequate to meet the stress, the unions

had to suspend their regulations so that women could do their share in helping to preserve the integrity of their governments.

A careful examination of the conflicting Federal laws, State statutes and municipal ordinances that affect labor should be made so that they could all be properly harmonized and brought under the ruling control of Federal law to be operative during the term of the war. A nation at war may be properly likened to the occupants of a boat's company adrift at sea. All have to unite for mutual safety and the personal rights of each must give way before the common rights of all.

Free, or non-union, labor, as it is contemptuously termed by those who always cast a slur at any one who is not in possession of a union ticket, will prove to be the backbone of our industrial preparedness. Where we have a manpower of 23,000,000 men and 6,000,000 women in this country who now earn their living and could draw probably upon an additional 20,000,000, there are but 2,000,000 union operatives. A nation which would bow to the dictation of such a minute fraction of its potential labor force would be senile and deserving of defeat.

Full protection must be given to free labor to engage in work of all kinds. In place of making further restrictions and undermining individual liberty, which is assured us in our Constitution, the people, as a whole, should see that unionism makes no further aggressions during the war.

In the countries which have mobilized millions of men and hundreds of thousands of women to work behind their field armies, the questions have been asked:

"What right has any stay-at-home to refuse to work or to accept a fair wage? What right has any one who is a slacker when called to take up arms for his country to object to work alongside of willing men in any industry?" A strike in times of war is sedition, and constitutes the basest act that a man can perform against his country and humanity.

We must declare an equally firm stand against those who would place self-interest before the welfare of their country.

CHAPTER XX.

ORGANIZATION OF FOREIGN INFORMATION BUREAU.

It seems contrary to the free and open-handed spirit of the American people to be obliged to think of organizing a foreign information bureau on the lines of the Russian Secret Service, the Scotland Yards Secret Service of Great Britain and those secret service organizations maintained by all first-class nations.

The results of the world war, however, have shown that political and military intrigue is something that can only be combatted by advance information and a careful scrutiny of the actions of the prime powers in all parts of the world. While we were according the most courteous treatment to the Ambassadors of Germany and Austria-Hungary, these officials and their staffs, as well as all their subordinate representatives and hirelings throughout the United States and our possessions, were surreptitiously engaged in fomenting revolution in this country and in inciting other nations with whom we were at peace to acts of furtive violence and even open assault against the United States.

With the responsibility for the welfare of 110,000,000 people directly under the control of the United States Government, the authorities in Washington cannot go in ignorance of what is transpiring throughout the world. Information which is known to everybody

is of little value and it is the business of a foreign information bureau to keep its government fully apprised of all important events that have any relation to the welfare of the country.

In the matter of establishing our information bureau on a wider and more efficient scale than heretofore, we must have representatives who will look out for the commercial interests as well as to take heed of political conditions. The great commercial strength of the British Empire and of Germany grew from the fact that their foreign representatives who were the Consuls or agents, always kept their eyes open for trade advantages and were the most effective "drummers" that those nations could have.

One of the requirements for our foreign information bureau is that it contain in its personnel men who are familiar with several foreign languages. The old custom of sending Americans to foreign courts who were unable to speak either French, German, Italian, Spanish, or any of the other European languages, placed us in a most unfortunate position. It required that every word spoken by our representatives had to be translated by an interpreter. The contempt and scorn with which foreign nations still regard "ignorant Yankees" is proverbial. With our cosmopolitan population it is not a difficult matter to find competent men who, from their childhood, have been made familiar with two or more languages. This follows from their parents having been foreign-born, or the first or second generation from foreign-born emigrants to this country.

In our early Colonial days, when more than 90 per cent. of our people were English, or speaking the English language, there might have been some excuse for

our foreign representatives being unable to speak in any other than their native tongue.

In place of making appointments to the foreign service on a political patronage basis, it should be on the qualifications in education and business competence that would be exercised by a private corporation in selecting its foreign agents.

It is of the most vital importance that the army and navy should have separate and efficient military secret service agents throughout the world. This branch of service is of extreme value in view of the present world war and the certainty that combinations of powers after the war or a sudden coalition of nations during its progress must not be made without the United States being fully aware of the situation. The mere announcement that German intrigue had planned to form a triple alliance between Germany, Japan and Mexico for the purpose of attacking the United States and dismembering the Union came as a shock to this country. It is only one of the many schemes that imperialists engender when they are engaged in war. The altruistic belief we have held that the United States was dear to the heart of all other nations is suffering a rude awakening.

We have benefited by the world war to the present date to a greater extent than all the scattered neutral nations combined and have received very high prices for everything we have furnished to the Entente Allies. We have not cultivated the friendship of Great Britain and her Allies, or Germany and her Allies, and at the conclusion of the war we must stand in a position of almost complete isolation. This requires that in all parts of the world we should have the benefit

of information secured by our own representatives and capable of being transmitted to us without being censored or misinterpreted. We must in future maintain our own international mail routes and inter-continental wireless and cable service.

Our entrance into the war toward the close of the third year finds us unprepared in the matter of an international secret service. This weakness must be rectified at the earliest opportunity.

It is from our institutions of learning, from the great body of alumni from American universities, colleges and academies, that we can draw a supply of men and women who are fitted by education and environment to assume the difficult diplomatic and dangerous military tasks embraced under a foreign information bureau. No American could do more for his country than to qualify for this indispensable work.

CHAPTER XXI.

UNIFICATION OF CIVIL GOVERNMENTS.

During a period of war the weakness of a republic is emphasized owing to the fact that it is a government controlled by the people and subject to sudden changes of opinion. In the case of the United States, which represents forty-eight sovereign States and with territories represented by delegates in Congress, popular clamor and revulsions of feeling find immediate translation into hurried acts that greatly embarrass the Executive department and the Army and Navy. This was the situation which confronted the country during the Civil War and was evident in a lesser degree during all of our other wars. We have had Tories, Copperheads, anti-Imperialists and Pacifists to deal with.

Taking as a pattern the European nations and Great Britain, which have undergone the stress of the most gigantic war in history, it is shown that the wise course for the United States to pursue is to establish a Grand Council of the States to correspond to the council of the Entente Allies. When Great Britain, Russia, France, Italy, Japan and the other countries acting in concert determined to conduct their war against the Teutonic Allies by a perfectly concerted movement instead of by separate attacks, they began holding councils in London, Paris and Rome. These

have resulted in the harmonious development of a campaign to tighten the "ring of steel" around the Central Powers.

With the United States each of the States is a sovereign having its own government, its own laws that are supreme within the State domain and that are not subject to Federal interference unless they are contrary to the Constitution and Statutes of the United States. In times of peace this does not work any serious hardships or create dangerous complications between the States, as matters can always be adjusted through an appeal to the United States Supreme Court. However, in the stress of war these long and unavoidable delays in the adjudication of disputes are a national menace.

As it is possible for the Federal government to exercise its right of eminent domain in the matter of compelling military service, commandeering real property and requisitioning supplies, so it is possible by prearrangement through the activities of a Grand Council of the States to have a proper unification of the governments of the several States to work with the Federal government.

This would give immediate uniform national character to Federal orders and there would be no confusion either in the executive or legal departments of the several States in carrying out the work of national defense. A proper development of this plan would provide for the instant and identical issuing of proclamations by the Governors of States acting as a committee of the whole for the States of the Union. It would avoid the delays of having each State laboriously work out a plan for giving direct

force to the suggestions and requests of the Government.

As an instance, in the present war, if this plan were in operation, a proclamation directly requesting the press of the country to refrain from publishing news regarding the movements of shipping would be immediately operative. Another immediate order which would be timely and possibly save lives and loss of property would be one regarding the manufacture, handling or storage of explosives. As it is, every State has its own laws and municipalities within the State borders have varying laws regarding the handling of explosives. What is a harmless act in one State may be a misdemeanor or crime in another. In time of war, when plots are being carried out within our borders, the most drastic measures for safety of life and property should be enforced and be made uniform. All of this could be accomplished in advance by a concerted action and the States would not be robbed of their cherished "State rights" which would be only subordinated for the general welfare of the nation.

We have found that the constitution with its provision for executive, legislative and judicial branches is adequate for all of our domestic relations and up to the present time has sufficed to properly care for our limited foreign relations.

Now that world treaties are not abrogated, but ruthlessly violated, and the most sacred rights of humanity are treated with scorn, the slow process of deliberate legislation cannot form an adequate protection to the nation. The United States should have a system for perfect co-ordination which would permit

of the Federal government and the governments of the States acting as a committee of the whole for the welfare of the nation.

This could properly include a supreme act of united sovereignty in which the President of the United States could address the Senate and House in joint session with the Supreme Court attending in a body and the Governors of all the States admitted to the assembly by special invitation. Any announcement of action for offence or defense, ordered at such a time, would be given the force of a united people speaking through their executives and legislators and, with the high court of last resort present and cognizant of the methods and purposes of the nation. This would be the expeditious way to meet a crisis.

Such a course would dispense with delays and solidify the thought of the nation.

At the same time that executives succeeded in unifying the actions of the States to the Federal government, the co-operation of State courts should be effective so that the decrees and processes could be made uniform and expeditious. The Civil War established the fact that this is a Union of States, one and indivisible. The United States extends the benefit and protection of the entire Union to each of its constituent States, and, through mutual loyalty, each State must remain in and support the Union. So in times of war the Federal laws and the Federal requirements must take immediate and complete precedence over State laws. It has been shown in the great world war that the power of Great Britain to take action through its general orders in council, to issue mandates and proclamations that become operative throughout the

realm and which affect all of the foreign relations of the Empire is the direct method for a great nation to pursue.

Applied to the United States it means that each State in this war of great magnitude should at once be in a position to subordinate its privileges and its customs to the supreme need of the nation. Whenever Great Britain has taken action during the war through its Orders in Council, whether affecting the blockade, articles to be declared contraband, embargoes or any other matter of prime importance, all of the constituent parts of the Empire—Australia, Canada, India, the African possessions and all of the minor territorial elements—have accepted the enactments at once and accommodated their local conditions accordingly. Great Britain's supreme navy and her now stupendous army of 5,000,000 men gives force and emphasis to her acts.

Back of the United States there stands a united people and they need only to act with the same promptitude, directness and effectiveness as the European powers and Great Britain to be able to accomplish definite results for preparedness, and, in the conduct of this war, to be competent to act with success.

CHAPTER XXII.

ORGANIZATION OF INSULAR AND DISTANT DEFENSE.

When the great world powers of continental Europe were partitioning Africa and acquiring "zones of influence" in Asia, South America and in the great Indian Archipelago, of which Australia is the center, the territory embraced in the present United States was under the control and dominance of France, Spain and Great Britain, with minor holdings in the control of Holland and Portugal. Thus from 1492 to the outbreak of the Spanish-American War in 1898 no opportunity had been taken advantage of by the people in the Western Hemisphere to acquire possessions in any part of the Eastern Hemisphere, including Europe, Asia, Africa and Australia.

From our first efforts as a nation to extend our possessions we acquired the Louisiana territory by purchase from France; later we purchased Florida from Spain, and acquired Texas, New Mexico, Arizona and part of California through the treaty resulting from the Mexican War. We rounded out our possession in this direction by the later Gadsden purchase. Our next move in the way of acquiring territory was the purchase from Russia of Alaska, embracing 500,000 square miles, or land equal to one-sixth of the territory of the United States.

We next became possessed of the Hawaiian Islands and in the treaty of peace of Paris signed at the termination of the Spanish-American War in 1898 we became possessed of the Philippine Islands, Porto Rico, Guam and other minor insular holdings. This has placed the United States in the list of nations that are termed empires. It involves our protecting distant territory, whether on this continent or on the other side of the world. It imposes upon the United States the establishment of a colonial department and the maintenance of army and navy bases in the far Pacific, as well as at the northern extremity of this continent, to protect Alaska.

With the completion of the Panama Canal another territorial asset came into possession of this country, but it, also, involves the most serious obligations. While intact and properly defended it constitutes the greatest means of defense for the United States as it would give us an ability to double the strength of our naval or army forces which could be assembled in half the time that any foe could round Cape Horn. We would hold the same strategic advantage on two oceans as Germany holds on the Baltic and North seas through the Kiel Canal.

Under the disturbed conditions of the present war and with the inevitable readjustment that will be made when peace is concluded it becomes the solemn obligation of the United States to properly equip and defend its insular and detached possessions. It has been written by military experts from the earliest periods of history that an empire ceases to deserve the support of its people or the honor of the outside world when it fails to protect its citizens wherever located. This

imposes upon nations having distant colonies the creation and maintenance of a powerful navy. When Spain ruled the world her armadas of both war and merchant ships were invincible. When the nation sank to decadence Great Britain assumed control of the sea and in less than two centuries became the greatest land factor in the world, as well, a position she has never since relinquished.

The spirit of loyalty engendered in all subjects of the British Empire has had its full illustration in the response that Canada, India, Australia, New Zealand and all her other possessions have made to the appeal for united support for the flag.

The United States cannot be remiss in its Insular policy and must move immediately to develop proper defense for our possessions against any aggressors. The establishment of army bases and navy bases 10,000 miles distant from our Pacific Coast are matters that cannot be lightly accomplished and the first requisite is a tonnage in merchant ships that can be used for freight and troop transport purposes. Military supply stations and accommodations for the protection of the civil inhabitants of our colonies are matters that require the co-ordinate effort of the army, navy and civil government. That we have not proceeded further in this regard can be condoned only on the ground that world power is new to us. Under the urgent force of present circumstances and with the example of Great Britain, France, Japan, Portugal, and even Belgium, showing how distant territories can be protected and made the starting points for successful expeditionary moves against an enemy, we should make our possessions invulnerable.

What is needed more than anything else is a proper awakening in the minds of our own 110,000,000 people as to what the holding of foreign possessions means. This could be properly accomplished by having a rotary service for the army, navy and civil government officials. To have our army and navy officers and high executives in civil departments rotate from Alaska to Hawaii, to the Philippines, to the Panama Zone, to Guantanamo, Cuba, to Porto Rico, and then to stations in the United States, would be to give them some adequate idea of the extent and greatness of the United States and the need for co-operation. Officers and men in the army service would be made familiar with the varying climates, peoples, topographical features of the various possessions and the envioning conditions of foreign territory and peoples. Their experiences and observations would be told in the households of America.

The army and naval forces of this nation in time of peace could be utilized in perfecting fortifications and military strongholds at home and in the territories. This need not take the form of having the enlisted men perform the most laborious tasks of manual labor, but rather of having the officers direct the work and the enlisted men given an opportunity of assisting in operating mechanical equipment and of overseeing native labor. Officers and men would observe the methods of creative military construction. The naval vessels of the United States could well be used for transporting ordnance, ammunition and munitions and such work would give the men practical experience in performing duties that would afterward equip them for desirable positions in the mercantile marine

service. The hide bound rules of military etiquette and order are fast giving away under the blows of the world's titanic war. Kings, even Czars, find that the "ancient order passeth."

It is possible to formulate a plan by which men enlisted in the army and navy and stationed at posts or fortified ports could devote a part of their time to mechanical work of some kind in connection with the construction of sea walls, lighthouses, aqueducts, canals, earthworks, irrigation and other public works, and receive additional compensation. This would give proper vent to the progressive spirit of American manhood which is not satisfied to rot in barracks or on shipboard and to drone along on \$15.00 a month as an enlisted man in either the army or navy. If the training for military service entailed the regular army and navy pay and in addition furnished, during a period of two years' enlistment, opportunity for earning several hundred dollars more in wages for extra work performed, the men would be better off and the Government would be accomplishing great public purposes in the most economical way. As now conducted the improvements made for the army and for coast defense, for naval construction, and in all matters of Federal work, are done by men who are drawn from lines of civil activity.

The daily record in the present war shows that the soldiers of all the combatants, as well as hundreds of thousands of prisoners and civilians, are being impressed into the service of performing tasks of manual and skilled labor. This has been a war of superhuman effort, applied more to mechanics than to the direct clash of armed forces. That the health of the armies

in the field and those in reserve camps and training camps is maintained at a high percentage is declared to be largely attributable to the strenuous regime through which the men have to pass. From raw recruits to the trained soldier they have to do some form of labor and are earning their bread by the sweat of their brow. This makes them hard and sound and keeps them from being demoralized as has always heretofore been the case when great armies were deadlocked by siege or trench inertia.

If the citizens of the United States adopt the universal service plan and find that their army and navy on its increased basis is performing myriad tasks of general benefit there will be no grudging of the cost, for, as a matter of economics, both the navy and army would then be more than self-supporting. They would be present as a means of defense and offense to compel peace and the men in active service would be making themselves into better citizens by systematic training and the fulfillment of a public duty. No field offers better opportunities for the application of these principles than the strengthening of our insular possessions and it is to these that the serious attention of our Government should be directed. Nothing could be more humiliating than the acknowledgment that the United States at the first stage of the war suffered the loss of its distant possessions in the same manner that Germany found its over-seas empire of a million square miles stripped from it in the first year of the world war.

We are a world power and must live up to the obligations, as well as seek to enjoy the benefits of this great distinction.

Adequate insular defense is inseparable from respect for our flag. The future of the United States is to be settled in the conflict we have just entered. In the event of our playing an important and valorous part we will win the respect of the world. Nothing can redound to our credit more than properly defending our insular possessions.

CHAPTER XXIII.

IMPROVEMENTS OF ROADS AND WATERWAYS.

Military observers attached to the armies of the European belligerents testify that the great success which attended the Germans in their early campaign through Belgium and France was made possible, not by reason of the railroad systems, but because of the perfect system of highways that existed in Germany, Belgium and the invaded portions of France. This made army transport and artillery movements possible and permitted the forward lunge of field armies aggregating three million men. No such gigantic undertaking was ever before recorded and could not have been accomplished over old dirt roads and country lanes.

When the European war had developed further and the investment of Verdun was undertaken the effort of the German Crown Prince was to cut the line of communication between Verdun and Paris. If this had been done the citadel would have fallen. The French were resourceful enough, however, to utilize their highways and they instituted an endless chain of motor trucks between Paris and Verdun which sufficed to bring ammunition and munitions for the beleaguered garrison. In contrast the lack of properly constructed highways has been one of the great weak-

nesses in the Russian campaigns. The great distances between army depots in Russia and the eastern front have made it impossible for army transports to move freely.

With these circumstances in mind and with the added incentive of giving the United States, the world's greatest producer of automobiles and certain to become the greatest user of motor trucks, a system of adequate national highways, good roads are something which all States should unite in accomplishing.

In place of having hundreds of thousands of men in our army and at our navy stations going through long, tedious drill, after they have attained a degree of proficiency, the hours of drill should be shortened and some creative work delegated to men on a fair basis of extra compensation. This would strengthen their physical and moral fibre and would practically make both branches of the service self-supporting. They should, for example, work on good road construction and waterway improvements and receive special compensation.

With modern machinery the task of constructing roads is not as irksome as in the past when the labor consisted of manual effort applied to shovel and pick. The use of machinery makes it possible for army officers and their men to perform a large percentage of construction work on highways and to make this part of their service to the Nation. In time of actual war it would be the army that would benefit from having good routes to travel and their support in the field would be uninterrupted. So as to accomplish a plan of national road improvement the navy could co-operate with the army in the transport of cement,

crude oil and gasoline needed for the actual construction of the roads and for operating road building machinery.

When such a task was allotted to the navy it would give them proper experience in handling bulk materials. Under conditions which the war college would impose these tasks would approximate the actual conditions of war. Upward of twenty million men in Europe have been engaged in doing manual tasks in connection with the conduct of the war, and while under enemy fire. If the same herculean efforts were applied in time of peace the greatest public improvements in the world would have been accomplished.

In our nation, which hopes to quickly restore peace, the work that would be done by our army and navy would be lasting. In the several States the militia should have supreme supervision of the State roads improvement. This would take it out of politics and would make every foot of road within the State domain a military highway, to be kept up to a point of efficiency, under the direction of the State Adjutant-General.

In actual work the State organizations, the Boy Scouts and all citizens who were enrolled to perform some duty in connection with national preparedness, could constitute themselves volunteer inspectors to see that the roads were kept in proper condition. Where washouts or natural wear of road surfaces required attention the nearest military headquarters could be apprised and the work accomplished without delay.

Good roads would mean lower costs for all articles of food as it would give farmers all year round means for reaching markets. It would make travel agreeable

and would take the people of our cities into the country and bring the country dwellers to the cities. Taking as an example the Lincoln Highway, this country could have at least six trans-continental and eight national highways running north and south. Thus gridironed, the United States would be in the same strong military position as Europe, which for centuries has maintained a good road policy.

Of equal importance is the development of the national waterway routes. These are best adapted for the movement of troops and for large pieces of ordnance and for transportation of supplies. There are canal systems in the United States which make possible a conveyance of iron ore from Duluth to tide-water and grain from all the Great Lakes elevator centers to our Atlantic seaboard.

Along the Atlantic coast there are systems of canals that are available for ships of small draught to pass from Boston to New York, from New York to Philadelphia, from the Delaware to the Chesapeake. The Dismal Swamp Canal, along the Virginia and North Carolina coasts which failed of definite accomplishment during the past hundred years of agitation, is capable of being completed at a fraction of the cost of the Panama. This would give us an inside water route from Massachusetts to South Carolina. Aiming at first to make the route available for light draught boats it could be deepened year by year until finally available for sizable vessels. Our Great Lakes connecting canals and the outlet to the St. Lawrence should also be developed. No railroad breakdown or temporary occupation of territory by an enemy could then blockade the sea coast States or prevent the in-

terior States from getting their grain to market either to the Atlantic or Gulf States, if adequate inland waterways are developed. The canal between Chicago and the Mississippi river should be made capable of use by deep draught vessels and the Mississippi be made navigable as far toward its source as possible. With proper levees and the river dredged so as to give a deep water channel our great national resources could always move by water route.

To show how important waterways are in time of war it is declared that Great Britain's initial defeat in the campaign against Bagdad followed because they had an inadequate water transport on the Tigris river. When this was rectified General Maude had an endless supply of food and munition at his back and the road to Bagdad became a victorious march.

An inland waterway for the south shore of Long Island connecting Montauk Point with Jamaica Bay and New York harbor is one of the most important matters that can be considered by the nation. It would serve to give a first line waterway protection to New York and Long Island Sound. With Hell Gate properly improved so that the deepest draught vessels can pass through at any tide and with Ambrose channel dredged as a forty-foot passage, New York and its vicinity, including New Jersey, Connecticut and the inside water route to New England, could be made impregnable.

No work at hand is of greater importance than that all of the States undertake land and waterway improvements at once and push them to completion.

CHAPTER XXIV.

MOBILIZATION OF WAR ESSENTIALS.

At the outset of the war in which this country is involved the national supplies of foodstuffs, wool, cotton, copper and steel products must be conserved. This imposes upon the Federal authorities, and the State officials acting in concert with them, the duty to make an immediate survey of existing stocks, the commandeering of reserve stocks and the control of the output from our fields, mines and factories.

One of the first things that Great Britain did when the world war opened was to put an embargo upon the sale of wool in Great Britain or any of the dominions. This automatically prevented Australia, Canada or any other constituent part of the empire from dissipating the all-essential wool supply. Another instant embargo was placed upon the disposition of crude rubber. As the war extended, and it was seen that the resources of the world would be drawn upon for all classes of materials, Great Britain and her Allies extended the list of articles that were to be held subject to the order of the government. Jute and burlap were placed on this list and the India crop became subject to first call by the British army. The needs for bagging for transportation of foods and for making sand bags for trenches took precedence over any requirements of a commercial character.

In our country with its tremendous production of cotton, copper and steel products, it would be a national disgrace if we were to be short of these essentials during the war. The bureau of vital statistics in Washington has charts which show, over a period of years, the average production and selling prices of all classes of raw products and finished goods that would be needed in the hour of national mobilization and the economic and sensible method of arriving at the requirements of the Government and the price that should be paid, embraces striking an average over a given period of years. The same method should regulate the rate of wages. The fluctuations in the production of cotton show that our crop varies from twelve to sixteen million bales; our supply of wool is limited to something over three hundred million pounds and that the production of copper and steel products can be quickly and greatly intensified. In foodstuffs our crops of wheat, oats and all other cereals do not vary so radically that a fair average price cannot be determined upon. The evil of speculating in the enhancement of values under war conditions has been given a death blow by the other belligerents in the great conflict now raging. Except for the conditions over which the Allies have no control they are exercising strict regulation in the matter of price of goods sold to the several governments.

In their purchasing of copper, ammunition and other goods from the United States where they cannot control our manufacturers or compel the sale of goods by requisition, they have been forced to pay high prices. This should be an object lesson to the United States government to be safeguarded against such a

condition in our hour of need. When the necessities of the nation demand the purchase of great quantities of oil, gasoline, coal, live stock and provisions, the momentary advantage of one class of citizens should not be permitted to force the nation into paying extortionate prices.

It must always be remembered that during a war men are peremptorily called upon to give their service, and if needs be their lives, for the defense of the government. When our soldiers and sailors are making such sacrifices it is little short of treason for those who remain in comparative safety to seek usurious advantage of the nation.

It is beyond the realms of reason to expect that under a stress of conditions which called upon the Federal government to place an army of one, two, three, four or five million men in the field with the fifteen to twenty million people back of the first lines who would have to devote their undivided efforts to producing the munitions that the Government could incidentally assume active operation of our railroad transportation facilities, our manufacturing plants and our agricultural activities. This would be imposing upon the Government the accomplishment of universal socialism. The world is not ready for this step, and the United States, the freest of all countries, is the least able to adopt drastic socialistic methods. It, therefore, becomes an imperative duty of the Federal government and the States to adopt such regulative methods as will leave the greatest measure of individual freedom to the people in following their given vocations, but to put an effective check upon speculation at the expense of the nation. We must be able to

enforce the operation of our public utilities, the proper valuation of all products and achieve the most economic distribution of our resources. Such matters when attempted in haste cause confusion and develop inefficiency. We have all the precedents of the world war to show that republican France, imperialistic Germany and the democratic empire of Great Britain could all accomplish this end as one of the necessities of the war. What these nations and their Allies have done this country can also accomplish and there is evident throughout the land a disposition for men in high office and citizens in all stations of life to cooperate for national defense. As examples of what should be done and how to do it those interested in the wool, cotton, copper and the foodstuffs supplies of the nation should quickly formulate their plans and publish them so that they may be taken as patterns for others. The tabulation by card system of national resources falls far short of the actual working out of the possible plan of how to survey and control a product, the sale of which reaches into the hundreds of millions of dollars annually and which is distributed throughout the length and breadth of the land. The Government needs the assistance of all its citizens in helping to place America on a footing with other prime nations. In no direction is there a greater chance to serve the country than in showing how its resources can be conserved.

CHAPTER XXV.

WOMEN'S AUXILIARY DEFENSE SERVICE.

Women have never failed to assume full responsibility in any crisis in the world. They have borne their share of the toil and worries unassumingly in the tedious development of mankind. It is only recently that they have had recognition given them in any adequate degree. With the outbreak of the European war it soon became evident that the manpower of the world was insufficient to meet the stupendous demands for every day work and at the same time furnish millions of men for the actual fighting. The women of all the belligerent countries and those in many neutral countries unhesitatingly volunteered their services. They have become wonderfully expert in lines of work never before attempted by them and have been instrumental in releasing millions of men who would otherwise have been held back from active military service.

It is fortunate that in the United States there is hardly a conceivable situation that could arise which would necessitate the mobilization of our women to the same extent as has been done in Europe and Great Britain. However, there are many ways in which women can show their active patriotism in a time of war, and in all parts of the country there is evidence that our mothers, wives and sisters are not unmindful of the duty which they can perform. We have women's

auxiliary corps already organized in connection with the Grand Army of the Republic and Confederate Veterans. The members of the corps for many years have done charitable work in behalf of the veterans of our great war. They have recently extended their activities to cover the soldiers of the Spanish-American War and are now ready to act in the present crisis. There are medical aid societies, societies of nurses, Red Cross societies and patriotic orders that are already in existence, which by resolution can speedily broaden their activities so as to become helpful in the hour of national trial.

Built upon the patriotic societies that are based upon descent from patriots of the Colonial wars—Revolution, War of 1812, Mexican War, Civil War and Spanish-American War—there is offered the nucleus for a still greater patriotic order to include all those women who dwell in America and who have no higher ambition than to pledge their fealty to this country. It is the women who teach the growing generation from the cradle to maturity and shape their minds and govern the destinies of their children. If this country is to reach a state of adequate preparedness, it must be based upon universal military service. The greatest impetus which this plan could receive would be from the united expression of the mothers of America. No one in our country looks with favor upon a huge standing army and the development of a militant spirit, but it is appreciated that our liberty and our honor require that the nation should be able to defend its sovereignty.

In place of having an undrilled citizen army, where thousands would be needlessly killed through

their ignorance of military tactics, it is better that our country should be properly protected by a force representing the eligible manhood brought into the army and navy by means of a universal military service system. This would make every young man perform the duty of military service as part of his obligation to the nation. It would tend to intensify the democratization of the country by bringing rich and poor together through the comradeship of training and service and would place us where at all times a sufficient number of reservists would be available to take the field.

Women are as practical as men in the matters of daily life and once the advantages of universal training are explained they will sanction it. This will mean that their boys would not be taken from them for the purpose of waging aggressive wars, but would be trained during the age of 19 to 21 and brought to a degree of physical fitness that would give them a better start in life.

In the event of a tremendous draft being made upon the manhood of the country, such as would be made necessary if we were invaded by a prime nation, women would be found capable of filling millions of positions that have heretofore been exclusively occupied by men. They are already strongly entrenched in the commercial world, and in the telephone and telegraph service, in the steam railway systems as clerical aids and in executive departments; they are showing their capacity for sustained and capable service. In our munition factories and in the great manufacturing devoted to the production of clothing, prepared foods and many other lines women are already

occupying many positions and performing their services with satisfaction. There are upwards of six million women in the United States who earn their living. This number could be doubled or tripled if necessity required.

It is, however, in the homes that our women can perform the greatest service for the nation. If they will exercise the same thrift and economy that have been forced upon the peoples in European countries and in other parts of the world where war has made the pinch of poverty and famine felt, they will help solve a great economic problem. Women have been forced to resort to every device to make a scanty supply of food provide for their requirements throughout the world for the past two and a half years. This proves their efficiency.

Women's societies should be instructed in matters pertaining to the billeting of soldiers in time of war and in responding to demands for the delivery of supplies to the army under war conditions. They should also be given the necessary instruction of how non-combatants should act in the event of an enemy passing through or occupying the territory in which their homes are located. This is most essential because in the present world war the German army in attacking Belgium has sought to justify its assaults upon non-combatants on the theory that the people of the countryside resorted to ambush warfare against the invaders. This, while denied by the Belgians and accepted as a mis-statement by the civilized world, impresses the necessity of a nation carefully instructing its people in how to act under all circumstances incident to war. The wholesale massacres of citizens in

Belgian cities which were occasioned because of the firing of random shots by what we know as "snipers" should be made a lesson with which everyone in this country be made fully familiar. It is from the mouths of mothers that the earliest instruction in how children and adults should act under given circumstances must be imparted. Both our girls and boys should be given early rudimentary instruction in the duties of citizenship, and be taught to act in an orderly manner so that mob violence will not be an incident to any war that this country may ever be involved in. The growing menace of militant unions can be more quickly checked by early admonitions in the home circle than by newspaper advice or repressive legislative enactments. The women of America have many problems to solve in helping the nation to reach preparedness, and they can do nothing better than to instil respect for the law in their children. When boys reach manhood they reflect their early training. If our youths are taught that the welfare of the country is their highest duty they will obey its laws and through universal military service be prepared to defend their liberties from attack.

CHAPTER XXVI.

BOY SCOUTS AND RESERVE CORPS.

It would seem that the development of the boy scout idea, which began a few years ago, was almost prophetic in the light of recent developments. In Europe and in Great Britain the idea found its origin and gradually it was taken up in this country more as a plan for getting city boys to acquire the habit of pedestrianism and to acquaint them with the beauties of the country. As soon as the world war quickened interest in military matters, the advantage of having hundreds of thousands of alert, patriotic boys schooled in the early rudiments of military training was appreciated by our army officers and educators.

So from a small beginning the boy scout idea has spread throughout the country and there are many thousands of instructors who are giving valuable lessons to boys in their teens so that they will form a serviceable body in case of emergency. In all of the European countries and Great Britain the services of boy scouts during the present war have been of real value. With an extension of their duties to act as messengers and in other capacities where alertness, loyalty and agility are requisite, the boys of this country will be found ready to respond and fully dependable. In carrying out the idea of a revival of the "American Minute Men," it is proper to state that the

boy scouts will constitute a steady reservoir from which to draw Minute Men. On attaining the age of 19 or 20, whichever may be determined by the army and navy as the age for universal military service, the boy scouts will begin their actual military training with much advanced knowledge and ability.

If it is proper to instil the lessons of history in our youths during their school days, it is equally proper to teach them the rudimentary principles of drilling and the simpler tactics and the manual of arms. By having our schools include such instructions the question of national preparedness would be instilled in our youths when they are most susceptible of grasping ideas and the physical advantages of setting-up exercise and the general manliness which comes from applying military carriage. Such advantages would bring our boys to maturity more efficient and healthier than they are at present.

If our national holidays could be dedicated to proper observations that would embrace military reviews and the recital of inspiring and patriotic pages from American history, our children would have greater love and respect for their flag and country. Washington's and Lincoln's Birthday, Decoration Day, Flag Day, Fourth of July and Labor Day, in place of being occasions of nondescript character and with no definite incentive, universal participation by the people should make them events that would bring out the full national spirit. The boy scouts and the girls' auxiliary corps are best suited for accomplishing this end. When we have our women, our girls and boys appreciative of the advantages of free government and willing to do something definite and serviceable to maintain free-

dom, we will have taken the greatest step toward continuous national preparedness.

When it is impressed upon our younger generation that they will be called upon on reaching maturity to make a personal sacrifice for their country, in devoting a fixed time to military training, they will regard their importance in the community and will be saved from many of the disadvantages which attach to undisciplined youth. No boy worthy of American citizenship would desire to shirk universal training, and, through association with boy scouts, he would unquestionably be brought into close relationship with boys of his own age and grow up with a real democratic spirit. In place of being militaristic and dangerous, universal military service as it is suggested for this country and as it is in force in France, Switzerland and other countries, is a unifying and beneficial method of maintaining military power. Every encouragement should be given to our boys to join boy scouts' organizations, and as rapidly as the States can be brought to pass necessary laws, universal drill and primary military training should be included in the regular school instructions.

CHAPTER XXVII.

PROFESSIONAL MEN'S LEAGUE.

To any one who has read newspapers closely during the past two and one-half years, it is apparent that the professional men, in all parts of the country, have shown a willingness and eagerness to give their best efforts to the development of national preparedness. Among those who have already made substantial progress in bringing their services to the support of the Government have been mechanical, electrical and civil engineers. As separate bodies, and acting under common impulse, they have aided in the preliminary survey of the nation's resources and members of these organizations have volunteered their services on the National Council of Defense and on State Committees.

There has also been an almost unanimous declaration on the part of the medical profession to be ready to tender their services in time of actual war and many physicians have become warrant officers and commissioned officers in the United States army and navy subject to instant call.

High officials in the railroad transportation service, our mercantile service and those connected with the telephone and telegraph public utilities, our wireless and cable companies, have all come forward to express their desire to co-operate. The formation of a general professional men's league seems to be the

proper step to take in order to unify the actions and to secure the maximum results from the proffered services of our professional men throughout the country. There are experts who have in their possession the details of all lines of work, including the science of chemistry, and who have proven themselves to be possessed of the executive ability to cope with questions of military supply. Other men, who from their prominence in cattle-raising, slaughtering industries, and the grain trade, are able to work to advantage with civil bodies, such as the professional men's league, in solving the food question arising from war. Above all others who have tendered their services and who are capable of performing great service to the country are the clergy and faculties in our universities and colleges. These men who have a special training and who from a full knowledge of history know what would be the logical course of action can act as members of any councils held by the Federal government or State bodies.

It is necessary that the activities of a general professional men's league should be divided into separate fields, and that certain men should be allotted to helping solve the problems for the army, others for the navy, and still others who would devote their time and efforts to keeping the machinery of our civil governments in motion. The phrase, "They serve who only stand and wait" is ages old, but it carries with it the evidence that in the earliest days of civilization it was realized that any man who performed a given duty, whether in civil or military life, was giving the best that was in him to his nation. All cannot wear the uniform and assume command, and back of every

trench line and every armored ship there must be reserves who unceasingly labor to provide the armament, munitions and provisions for active war. The quiet, effective and patriotic efforts of America's professional men forms one of the greatest assets upon which the nation may rely in this war.

CHAPTER XXVIII.

MOBILIZATION OF HORSES, MULES, CATTLE AND MOTOR VEHICLES.

Through the Department of Agriculture it is possible to make a very accurate estimate of the number of horses, mules, cattle, sheep and hogs that are available in the United States in case of a mobilization of national resources. It has been shown during the past two and a half years that the demand for army mounts and mules for army purposes sold to the Entente Allies has been enormous and this has been a heavy drain upon our supply of available cavalry, army draft horses and army mules.

With the inroads that have been made on live stock of this character, due to the increased use of automobiles and motor trucks, some constructive steps should be taken to increase the interest of our stock raisers in restoring their supplies.

When a demand was made in the fall of 1916 for cavalry animals, it was found that a very poor selection was to be had. The cavalry officers and purchasing agents of Great Britain, France and Italy had covered the United States completely and had selected the most desirable horses and mules, not only taking those from breeders but purchasing thousands from farmers and from owners in our cities. In case the Department of Agriculture should be empowered to take

an active part in the matter of re-stocking our country with horses and mules, stock-breeding farms could be located in various sections of the country, either on government lands or on private property and careful and systematic work pursued. The same department should have supervision of the available automobiles and motor trucks of the country, so that when desired they could be mobilized in an orderly manner and distributed to the most effective purpose.

It is believed that the proper system would be to divide the country into zones in which the available live stock and motor vehicles would be held subject to call according to governmental purposes of mobilization at points to be assigned at which the private owners would be required to despatch their animals or vehicles. They would then and there receive a predetermined sum for their property.

It is not in keeping with good military practice for an army to be given full rein to pillage, plunder and forage in an enemy country. Much less is it proper that at the initial move for war an army should begin a wholesale commandeering of private property in their own country. This, however, is what is recommended in the ill-considered suggestions in many newspapers and from Pacifists who claim that the country can be aroused into full military strength in a day. These advocates of non-preparedness declare that millions of men and hundreds of thousands of horses and automobiles could be gathered instantly for military purposes. Such action would destroy the confidence of the people in their own government and would invite disaster and revolution.

The orderly method is to have a careful, proper

census of our resources and by pre-arrangement have each citizen who is in possession of animals or property needed by the Government assigned by definite order to deliver the same at a prescribed place.

It was this method that was pursued by Germany and France in the rapid mobilization of their resources in 1914. It was lack of such forethought that delayed Great Britain's taking an active part on land during the first year of the war after sacrificing, with wonderful valor, the small regular army that she sent into France on the first move to defend Paris.

An effort should be made by the Government to increase the number of horses and mules in this country. This will prove generally beneficial and will be most serviceable to our farmers. It is they who will have to use horsepower for a great part of the work they perform and any improvement in the quality of the stock and the number of available animals is their best assurance that fair prices will prevail and that they will not find the country running short of live stock of this character after the war.

Proper hospitals for the care of horses and mules should be provided for and the number of veterinarians should be increased and wherever possible veterinary surgeons should be enrolled in the State or Federal service with a commissioned title and subject to orders to join the active service on instant demand.

It has been related by all who have visited the battle-fronts of Europe that exceptional care is given by the Blue Cross to the army mounts and draft animals. In place of having every wounded horse left to die on the battlefield or along the line of march, as has been the custom in past wars, it is now recorded that

fully seventy per cent. of the injured animals are restored to the service. Almost as remarkable an advance has been made in the skill of the veterinary department as in the hospital service and the same improved records have resulted. Any breeder or owner of horses or mules and any man qualified as a veterinary can do a high service for his country by assisting in the mobilization through a bureau in the Department of Agriculture of our national live stock resources.

CHAPTER XXIX.

AUGMENTED INSTRUCTION OF OFFICERS AND NON-COMMISSIONED OFFICERS.

It is a truism that every government is a reflection of the will of its people. When necessity impels a nation to change its form of government or to accelerate the activities of its governing classes, the manifestation first develops from the spontaneous action of the common people. In the United States, where every citizen is a sovereign and feels that the Federal government is his as a heritage, the impulse of patriotism is always strong. We find throughout the country today that citizens in all stations of life are hastening to acquaint themselves with the rudiments of military training and that they are drilling and studying the manual of arms for both the army and navy. Our militia has proven its stamina in responding to the call, as it did for the Mexican border and the formation of schools of military instructions such as that conducted at Plattsburgh and elsewhere shows the thought is uppermost in the minds of loyal Americans that the time is ripe for this country to adopt universal military training.

The first great deficiency in our system of having a small army and a limited militia is that it has not given us an adequate reserve of trained officers. When it is appreciated that an army of a million men requires

50,000 line officers and at least 20,000 trained officers on detached service and at various army headquarters and supply depots, it will be seen that with less than 15,000 available trained commissioned officers in the army and militia it would be impossible for the United States to mobilize millions of men and provide them with efficient officers at instant command.

Great Britain had so small a reserve of trained army officers that for the first year and a half when several million men were being trained throughout the British Isles Lord Kitchener would not consent to sending raw recruits with untried officers into action. Under intensive drill and study the British army of 5,000,000 has finally been brought to efficiency and is now showing its quality on the battle line.

American valor and American willingness cannot accomplish the impossible. It, therefore, becomes imperative that we should have an augmented system of instruction for commissioned and non-commissioned officers. This should not aim at educating only a few hundred or few thousand men in a highly technical manner, but the adoption of a systematic enrollment of men who qualify in rudimentary branches of schooling and who show an adaptability in acquiring general military skill. Such schools should be located in all of our leading cities and should be under the supervision of army officers, either those on the retired list or those who are available through assignment at given tasks, where they could perform other necessary duties, as well as giving instruction.

During the European war the matter of caste has been entirely obliterated and the sharp line which separated the enlisted man from the commissioned officer

no longer acts as a barrier to promotions from the ranks. It is estimated that fully seventy per cent. of the commissioned officers now in control of the armies of all belligerents have won their promotion in action since the war began.

In the United States there has always been a feeling of good comradeship between the officers and enlisted men in our militia and the election of officers has always been in the control of the men. It is only in the regular army that the line between officers and men has been tightly drawn. Now that it is known we will need officers to the extent of many thousands and that the West Point Academy cannot provide them, either through past graduates or those now taking their military course, it is clear that the best men in the country who are of military age and who show a disposition to qualify should be given instruction.

One of the needs, which it is essential should be studied by all United States regular army officers and those representing our militia and volunteers, is the grand manoeuvring tactics that are embraced in the movement of army corps and great field armies. There are very few men in the United States army who have ever participated in military manoeuvres where 50,000 men have been engaged. Unfortunately the small size of our regular army and the necessity for scattering it throughout the United States and our other possessions has limited the actual manoeuvres undertaken by our officers in war practice to a few thousand men. Just as a lawyer who has never practiced in a court of appeals or the Supreme Court is at a disadvantage in arguing his first case, so any army officer who is suddenly required to apply his book and theoretical knowl-

edge in grand manoeuvres is hampered by lack of previous actual experience. There could be no better method of instructing the regular army officers and all those acquiring military training, than by having the annual war manoeuvres of this country conducted on a large scale such as was the practice in European countries as a regular part of their training. This gave them the efficiency to mobilize rapidly in 1914. Delay of even a day in the defensive plans of France or the mobilization of the Russian armies might have proven disastrous and have given Germany the advantage of surprise which her generals expected would follow from their sudden attacks.

In our navy the same necessity exists for the training of officers of all grades for our high sea fleet; for our harbor defenses; our supply depots and for service in our distant possessions. Untrained and untried naval officers represent a greater risk than men of limited training in the army. The mis-manoeuvering of a battleship or a battle-fleet in action or the ineffectual protection of a harbor might bring immediate and crushing defeat to the nation. Errors committed on land can always be more easily remedied than those committed on the sea.

It, therefore, becomes imperative that the nation does not place too strong a reliance upon the protection which can be secured through the activity of a volunteer mosquito fleet. While every man freely offering his service and tendering as a gift his motor boat or yacht may be willing to die gloriously for his country, it would not serve a military purpose to have untrained men thus sacrificed. We need many thousands of men trained as officers and petty officers for the navy and

the naval reserve, and these should be given a chance to participate in high sea manoeuvres and in the defense of our coasts against enemy attack. It is not enough that the volunteers who live in States bordering on the deep seas should alone be drawn upon. From every State a pro rata proportion of those who are brought into the service of the United States, or who wish to volunteer, should be delegated to the emergency naval training schools and qualify as rapidly as possible for the duties of officers. Every man who can be brought to a point of moderate proficiency and who can perform a duty of a minor character will liberate for the high sea fleet navy officers who have complete training through their course at Annapolis and their service in the navy.

It must be recalled that it takes four years to train an officer from the grade of cadet to lieutenant in the regular course of instruction in the Annapolis Naval Academy. In times of peace four years can be used to this end, but under the emergency of war months, and not years, are given a nation in which to defend itself.

Let the augmented schools for the instruction of officers and non-commissioned officers be one of the first undertakings in our plan for national preparedness. Nothing can be of greater importance than to have men qualified to lead others into action either on land or on sea. Every State armory, and, if need be, every available public building, should be devoted to the uses of military schools of instruction at night under proper supervision. The details for such organization for the army should be delegated to the Governors of States, and through them to their adjutant-generals.

This is the direct and proper military course to follow. As the States do not have naval vessels at their disposal the naval officers' instruction schools should be held in our navy yards and at such other points as the commandants of naval stations may designate.

CHAPTER XXX.

SIGNAL CORPS SERVICE.

There is no way in which an effective signal corps service can be improvised or its intricacies mastered by volunteers in a day. Great military movements must be made in an orderly manner and upon definite information which is acquired by a skilled signal corps back of the advance line of the army and operating in the enemy territory. This requires the co-ordination of the telephone, telegraph, wireless and all other methods of intercommunication. The present method of making war requires signaling at night by rockets, searchlight beams and by flashlight signalling. All of these methods are modern and are not thoroughly understood by our regular army nor the militia. They are an absolutely closed book so far as our volunteers would be concerned.

The practical method to pursue should be to co-ordinate the Western Union, Postal Telegraph, the Bell Telephone systems, and all minor telegraph and telephone organizations, the wireless companies and cable companies, so that these could work in unison with the regular army signal corps and the military organizations in the various States.

In place of having a theoretical explanation of how military orders can be transmitted, practical try-outs should be instituted at once so that the several

army headquarters, naval stations and all State military headquarters could be put through a practice drill in receiving and distributing general orders. This would correspond to the fire drills that are conducted in our schools and that, in short order, clear a four-story building with several thousand children so that there is no panic, stampede or injury to even the smallest boys and girls. When such an example is before us it is certainly reasonable to demand that men engaged in the defense of the nation should practice a drill in issuing a hurry call, so that there would be no delay or confusion.

In the fire departments of our cities and in our police departments the same fundamentally sound practice obtains as in our schools. Emergency calls are issued and the fire department and police go through the actual assembling to test their efficiency.

Now that we are assembling the armed strength of the nation it seems that co-operation with the authorities in Washington should embrace the unification of our signal corps. We have our continental territory to consider and methods of communication between the United States and its distant possessions. In place of being dependent upon foreign cables we must construct our own high transmission wireless stations so that communication between the coast of California and Hawaii, and thence to the Philippines, will be in our own control. Our communication with Alaska should also be thoroughly independent of any foreign agencies.

One of the developments of the present war has been the introduction of signals from aeroplanes, and these are transmitted by wireless telephone, wireless

messages and by direct physical signals by means of wigwags. Our aviation signal corps service is still in its infancy and none of the State organizations have any practical experience in transmitting intelligence from the air covering a wide area of territory, extending over an enemy's line.

It is in connection with the signal corps that the special value of the new army unit, as suggested in this book, is to be found. Basing the number of men in an army unit at 5,000, representing all branches of service and working together in practice, our volunteer and militia armies would become proficient in the necessary details for field operation. When called to mobilize a unit would be thoroughly drilled and synchronized in all of its equipment and for performing all functions. Such a regimental unit would work like a ship's crew. This is the method of military organizations as forced upon the world by the advance of science and by the intensive methods of modern warfare.

The present system of unrelated units which brings into the field infantry regiments, cavalry troops, signal corps, light artillery batteries, heavy field batteries, medical corps, signal corps, ordnance corps and aviation corps, all operating disjunctively and never having operated in a wide field in open order, no proper team work can be accomplished. Cavalry cannot be moved unless the field it is to cover is shown to be free from enemy traps and this must be ascertained by an alert aviation scout service. Artillery cannot be advantageously placed unless the same intelligence is available. Infantry cannot be manoeuvred without excessive risk unless the enemy force is located and

its strength and direction ascertained. With our small regular army, small quota of militiamen and no adequate trained reserve, we must make up in efficiency what we lack in numbers.

War is largely a matter of science as applied by dauntless men; but the bravest men must have the means for defense and offense.

Our signal corps must be so co-ordinated that they can work from the regimental unit in actual practice, where they serve as the eyes of 5,000 men, to where they join a brigade of three regimental units comprising 15,000 men, or a division of three brigades representing 45,000 men, or get in union with the signal corps of a full army corps representing three divisions, a total of some 135,000 men.

These are conditions that our regular army has never attained since the days of the Civil War, and then none of the modern devices for communication were available. It is practice and not theory that makes an effective signal corps.

As the eyes of all armies in Europe are now recorded as being primarily represented by aviation corps, instruction in this branch in our signal service should include a liberal practice in planes, dirigible airships and observation balloons.

There are certainly a hundred thousand men in the United States who are thoroughly versed in telegraph, the telephone service and competent to become experts in wireless, and these should be mobilized without delay for our signal service, because this number is needed if we are to mobilize field armies of a million or more men, and are to properly patrol our sea coasts and land borders.

CHAPTER XXXI.

SAPPERS AND MINERS IN MODERN WAR.

It has been proven on all of the battle-fronts in the present world war that engineering skill is as great an asset to an army as man strength. It is upon the ingenuity and scientific skill of the engineering corps of the armies that modern trenches and fortifications are constructed and that offensive and counter-offensive attacks are developed in the matter of exploding mines and dynamiting enemy strongholds and lines of communication. Modern war has intensified the value of sappers and miners who in previous wars had generally played an inconspicuous part. When the movement of armies on the west front in France and Belgium was checked and trench warfare became the rule, the engineers for the Allies, as well as the Teutonic armies, resorted to every device for strengthening their trench lines and strongholds. Literally thousands of miles of concrete trenches have been built and subterranean forts have been constructed along lines never conceived of before in warfare.

In many desolated villages in France and Belgium the Germans constructed deep caves and galleries communicating from house to house and from one town to another, through cellars and communicating tunnels, for the movement of their men, ammunition and supplies. It was found that the armies were to be

deadlocked for months, and, as it has developed, for more than two years. In some instances, once entrenched they remained in fixed positions, not moving more than a few yards as a result of furious charges and along many miles of front holding unchanged position since September, 1914, following the battle of the Marne. It can be seen that under these conditions the skill of the sappers and miners in digging tunnels under the enemy trenches, and in placing explosive mines, has been an indispensable feature of the present war.

In our own experience in wars we have never had to resort to methods that are to be compared with those now in use in Europe. In front of Petersburg, in the Civil War, Grant's army succeeded in exploding many mines, but black powder was used and the effectiveness was not great. The one startling result of the long months of labor devoted in that direction was in the setting of a series of mines which created what is known as the "Great Crater," in which many hundreds of men were killed.

Such craters are common along the battle-fronts of Europe. In fact, back of every mile of trench the ground for a distance of several miles is literally pock-marked with such holes which have been created by the explosion of great quantities of dynamite and other explosives or have been the result of the discharge of high explosive shells from heavy artillery.

In our own preparation for war, it is possible for the regular army, the militia, and the volunteer forces to secure the services of men especially trained for work as sappers and miners. These men represent workers who have built railroads, subways and tunnels.

By drawing from the building trades in our large cities we could get men who are familiar with constructing foundations for modern buildings. These "ground hogs," as they are called, who delve hundreds of feet below the street levels in order to establish rock bottom foundations for skyscrapers, are also familiar with all the details of tunneling. It will be found that many thousands of hardy workers can be mobilized for army sappers and miners.

American underground engineering work is recognized as the most extensive in the world, and, in many instances, the most spectacular feats have been accomplished. Our railroad tunnels through the mountain ranges on the Atlantic coast and in the Rocky Mountains are works of exceptional skill, and in our cities, such as New York, Boston and Philadelphia, great subway systems have been constructed. In New York, particularly, the Hudson River and East River have been tunneled by numerous tubes and the work of building proper towers for numerous suspension bridges has required the skill of the best engineers and actual work by most proficient operatives.

The sappers and miners' division in our army must be thoroughly drilled and put through the practice of constructing modern trenches and communicating trenches as well as practiced in building tunnels for the destruction of enemy posts. This is essential from the fact that as modern armies "dig themselves in" to positions, they must be blasted or mined out.

The use of high explosive projectiles is much more expensive and less effective than the proper placing of bombs or mines by means of tunnels. The work is dangerous and requires skill and special training. At

Verdun and Gallipoli, as well as in China when the Japanese captured the German station, the work of sappers and miners became most important.

We have an opportunity in this country to immediately enroll a sufficient number of men familiar with underground work to form schools of instruction in New York, Boston, Chicago, St. Louis, Philadelphia, Pittsburgh and San Francisco. Men designated to join the sappers and miners' divisions could be assembled in these centers and receive instruction from civil engineers and practical superintendents, foremen and operatives who are familiar with tunneling, shoring, sheathing and caisson work. This is a matter which should be given early attention by those endeavoring to mobilize our national resources.

CHAPTER XXXII.

HARBOR DEFENSE CORPS.

What has always been termed one of the greatest advantages of the United States is the number and excellence of its harbors. Beginning from New England our Atlantic coast is marked by many excellent deep water harbors, and with Boston, New York, the Delaware, the Chesapeake, Charleston, Savannah, Wilmington and Jacksonville, we have available harbors and great bays that are suitable for the accommodation and protection of our mercantile marine and our naval vessels. Besides these major harbors and several watersheds there are many other available ports. On the Pacific we have the ports of San Francisco, Seattle and San Diego and others, including our harbors in Alaska. The proper defense for our coast and our deep sea harbors is not in a flimsy flotilla of submarine chasers that are little more than pleasure motor boats, converted into emergency navy auxiliaries. The services of volunteers in the harbor defense and naval reserve are desirable, but cannot be depended upon too strongly, and any work that the police of our coast cities performs can only be of a desultory character.

A well-defined system of coast defense requires the proper co-ordination between the army coast defense service, the field army forces of the Army De-

partment, in which the city is located, and the navy. The fixed positions of coast defense artillery must be defended against land attack. This requires large mobile military forces. Harbor defense must include the closing of channels, the laying of mines and the presence in a harbor of a sufficient number of naval vessels of the proper type to ward off an attack by an enemy fleet.

That we have not developed our plans for harbor defense to an advanced stage only accentuates the need of all citizens giving the matter immediate consideration. Police precinct stations in all of our coast cities should be made places attractive to the young men who are desirous of forming a harbor defense corps, and these station houses could be used for schools of instruction in the proper method of drill and for points of mobilization in case of emergency. Those who associate themselves in any branch of duty for the defense of the country and carry out the spirit of the American Minute Men should receive proper direction. In the matter of harbor defense more confusion than assistance will result if indiscriminate and unregulated movements are permitted to harbor craft.

By previous drill and instruction citizens, who have declared their intention to co-operate with the harbor defense forces, should be made familiar with the proper moves to make in the event of a call to action. The provisions of proclamations to be issued by mayors of cities, and, through them, by the police department, should be familiar to trained citizens through advanced instruction. The protective step of closing all saloons, cafés and liquor stores immediately upon the announcement of a call for the protec-

tion of a city should be provided for, and, under State enactment, a heavy penalty with forfeiture of license should be the result of a violation of this rule. Such a regulation would prevent trouble through intoxication when a city was in peril.

The forces brought together as volunteer adjuncts for harbor defense should be allotted definite duties and assigned to the army, naval reserve, U. S. Navy and to the civic authorities under the police department. By such an arrangement confusion would be avoided and thousands of youths and men of middle age who were anxious to do their share in protecting their homes and country would be given an opportunity to act effectively instead of working at random and intensifying the confusion in a city under such circumstances as a blockade or bombardment. That it has been more than a hundred years since any of our seacoast cities have been under the fire of an enemy's guns is the great underlying cause of our unpreparedness. We have felt too secure in our isolation and too confident in our supreme ability to ward off attack from any enemy. We have sought to live at peace with the world and have adopted the belief that the United States would never again be brought into armed conflict. We are having our awakening and must speed our preparedness for defense and our equipment for offense.

CHAPTER XXXIII.

SYNCHRONIZING MANOEUVERS OF REGULAR ARMY, MILITIA AND VOLUNTEER FORCES.

When stripped of all technical definitions and expressed in simplest terms, war is the business of fighting an enemy. To win victories one side must strike harder blows than the other. For the armed forces of the United States in time of actual war to accomplish results there must be a complete synchronizing of the movements of our regular army, the militia and the volunteer forces. As an example, the situation in New York may be described as follows: We have in this zone army headquarters on Governor's Island, in the Upper Bay; there are forts surrounding New York City, including Fort Wadsworth and Fort Hamilton guarding the entrance to the Narrows, joining the Lower Bay and Upper Bay; Fort Hancock at Sandy Hook; Fort Totten and Fort Schuyler on the Sound. We have the Brooklyn Navy Yard as a military station, and in the City of New York there are the armories of the several State militia regiments, cavalry troops, artillery batteries and engineering corps.

These constitute our regularly appointed and special State forces. The assembling of forces for volunteer auxiliaries must be handled through the regular Army Department or the State militia, as may be de-

terminated by the Federal government. If the work is delegated to the State militia, it would save confusion and overcrowding in the regular armories to have the police precinct station houses made recruiting headquarters for given sections of the city. Under emergency the men could be quartered in the station houses or in public buildings, and throughout the State the county seats and the cities could be made rendezvous for recruits coming from the rural districts.

It is essential that upon calling men to arms they should be placed under military control at the earliest opportunity so as to begin their training under competent officers. This immediately tends to bring the realization of duty strongly upon the recruit and is better than the system of enrolling men and having them living at home or be billeted away from their organization.

In the defense of New York the first efforts should be made to have the information sent by telephone or telegraph. In the New York district the grand headquarters should be located in the Western Union and Postal buildings, where immediate access would be given to the full telegraph service and where easy conjunction could be had with the telephone service. The telephone headquarters are located in the building immediately opposite the Western Union. These two means of communication together with the Postal Telegraph service would insure immediate distribution of war orders throughout the city and outlying territory. The call for the regular army, militia and volunteers to take the field to protect New York would involve placing supreme command in the hands of the ranking United States army officer, who would be com-

mander of the division of the East with headquarters at Governor's Island, New York. Under his control would come the regular army officers, members of the militia and the volunteers. The disposition of troops would be determined by the direction from which attack was expected, but would embrace throwing out armed forces around New York, in Westchester County, Long Island, Staten Island, Manhattan, and, through co-operation with New Jersey, along the Jersey shore line.

Supplementing this distribution of land forces would be the allotment of work for the naval forces at this station and the auxiliary naval reserve. Command of the naval forces would be under control of the ranking naval officer of the North Atlantic Squadron. Under his supreme direction the work assigned to the Naval Reserve, and the Harbor Defense Corps, the Coast Defense, the Signal Corps and the volunteer mosquito fleet guard would be performed. The commanding army officers, militia officers, volunteer officers and the Governors of the States of New York, New Jersey and Connecticut, acting ex-officio, should constitute the board of strategy for defense of the New York zone. All orders should emanate from the War Council Headquarters in the Postal and Western Union buildings, and by having a completely synchronized board the errors of omission and commission and the disasters which attended such movements as at Gallipoli would be avoided.

The work of defense of New York and other coast cities is dual and calls for the activity of both land and naval forces that to be effective must be perfectly harmonized. Running parallel with and quite as im-

portant as making effective progress against the enemy must be the maintenance of order in the territory defended.

With New York, comprising a cosmopolitan population of over 5,000,000, the strictest police regulation would have to prevail in order to avoid rioting, pillage and other acts of violence. The American Minute Men who would co-operate as a civil guard when not attached to any active branches of the service could be depended upon as guardians of the peace to protect public buildings, public highways, public works and for the care and protection of the citizens in conjunction with the regular constituted police. By previous enrollment and the possession of warrants to bear arms and to act as deputies these men would be immediately available upon call and would be trained to the duties for which they were needed. Such a body assisting the armed forces would put an end to food riots, the raiding of supply centers and to acts of general disorder.

A certain percentage of all those volunteering to act in the civil guard should be delegated to augment the regular fire department force as an attack upon a great city would probably lead to many incendiary fires and to others caused by direct gun fire or accidental causes. An efficient fire service at such a time would be of inestimable value and fire houses throughout the city and outlying territory could be converted into temporary barracks for the volunteer fire contingent. It is by working out definite plans along these lines that American coast cities can protect themselves from confusion, disasters and possible destruction.

CHAPTER XXXIV.

ATLANTIC COAST DEFENSE.

In a war which is being brought by a European power against the United States it is necessary for the aggressor to attack by sea, and the natural course would be to operate on the Atlantic coast. From Maine to Florida our coast line, with its estuaries, of nearly 3,000 miles would have to be patrolled by high sea vessels competent to operate several hundred miles off shore and be capable of remaining at sea for weeks, or even months, without making a home station. Modern warfare has introduced the airplane as the eyes for the navy, as well as the army, and our ships in acting as a coast defense should be equipped with airplanes and with proper launching platforms.

The faith that is being expressed in the power of small boats as a means of defense is more likely to prove a danger than a means of ultimate protection. The boat of less than a hundred feet in length and with a low free board cannot have the range of visibility which is required for operation on the high sea. Believing that the submarine is our greatest danger from the sea, and assuming that England's control of the submarine or its power to minimize the destructiveness of the campaign of frightfulness, is due to the efficiency of submarine chasers, we are providing fleets of small craft. While it is true that these small motor

craft have done good work in harbors, and while hugging the shore in fair to middling rough water they are impotent to act as a guard in stormy weather and under high sea conditions. The British navy regard these boats as auxiliary and not prime defensive arms.

Boats of a hundred feet or more would prove more capable, but even such vessels are not the ideal type. Armed ships with a displacement of 5,000 to 10,000 tons and with a high freeboard giving wider range of visibility and effective range for gun fire will be found, according to expert naval advice, to represent the safest off-shore coast defense craft against submarines. This is the opinion of naval men in all of the belligerent nations that have combated the Von Tirpitz sea piracy, and the United States should not run counter to their judgments. The many estuaries, firths, bays and channels that are found in the British Isles constitute a different problem than we have to meet in our Atlantic coast defense. We have comparatively few harbors and coast cities to protect.

Aside from the special craft for combating submarines our Atlantic naval coast defense must include a patrol of scout cruisers, battle-cruisers and battle-ships. This is an obligatory requirement inasmuch as the results of the battles in the North Sea since the first conflict between Admiral Jellicoe's high sea fleet and the German navy have proven that control of the sea must be held by a superior force attacking and destroying or chasing the enemy on sight.

If an enemy fleet were to approach our Atlantic seaboard on the New England coast, the Midä Atlantic or the South Atlantic, they should be detected by air scouts and scout-cruisers, immediately engaged

by armed cruisers and battle-cruisers, and kept employed until the major units of the coast patrol came up. This would be following exactly the same line of action that was witnessed in the Jutland battle when Admiral Beatty, with a reconnoitering fleet, engaged the German high sea fleet and successfully combated them until the grand fleet of Admiral Jellicoe arrived to clear the North Sea of the German raiders.

We are fortunate in having Boston harbor, New York harbor, Chesapeake Bay, Charleston, S. C., and Porto Rico as main stations for the Atlantic squadrons. On signals received from the high sea fleet and the coast patrol the necessary mobilization of land forces at the threatened point could be accomplished. This requires the installation and operation of effective wireless apparatus along our coasts and the intelligence bureau in the signal corps made competent to work in unison with the army and navy.

In the event of formidable attack on any point along the Atlantic coast it would be necessary for the nation to concentrate a strong force of land reserves so as to avoid invasion. Detailed plans for the mobilization of forces at the principal coast points will be given in succeeding chapters and the outline of the duties of the several States and the army and navy working in unison will be explained.

The paramount consideration in any war is to be prepared when occasion warrants for assuming the offensive. This has always been the rule that military instructors have laid down, and it applies to the United States as well as to any other nation. The force of this situation is shown in the land operations in progress on the west front in France and Belgium

since January, 1917. From being on the defensive and seeking to keep the German armies from making further incursions into France for the purpose of capturing Paris, the Entente Allies are assuming the offensive and are rolling back the German invaders. So on the North Sea and in the Mediterranean while the Allies have been fighting a defensive war they are ready at any opportunity, when they can find the enemy, to conduct an aggressive assault. Applied to the United States, it imposes upon our navy the duty to be ready to defend our coasts, or at the first opportunity to strike the enemy with the object of annihilating their sea strength.

CHAPTER XXXV.

GULF OF MEXICO DEFENSE.

In planning for the adequate defense of the Mississippi River and the territory bordering the Gulf of Mexico, the United States has to consider more than the narrow question of our own coast line. The peculiar geographical land formation of the Gulf of Mexico, which completes three-quarters of a circle and is closed on the remaining quarter by the Island of Cuba, so that access to this great gulf is possible only through the narrow Florida Strait and the Yucatan channel, a neck of the Caribbean Sea, makes it easy to defend and susceptible of modern protection in ways not available to any other great ocean body on the Western Hemisphere. In some respects the Gulf of Mexico is not unlike the Mediterranean Sea and the two controlling points of the Mediterranean, the Straits of Gibraltar and the Suez Canal, may be broadly compared to the Florida Strait and the channel or straits leading from the Gulf of Mexico into the Caribbean Sea.

Our broadest military interest in the Gulf of Mexico is that it forms the natural channel through which our supplies of foods, oils and munitions would pass to reach the Panama Canal and thus be available for distribution on our Pacific coast and to our Asiatic possessions.

The United States has become sponsor for Cuba,

and, under our still broader declaration of protection to all Pan-American nations embodied in the Monroe doctrine, the United States must be capable to occupy, not a defensive, but a strongly offensive position, in the Gulf of Mexico and its tributary waters.

The Mississippi watershed represents the heart of our nation, and as the Gulf of Mexico is the deep sea route for vessels entering or departing from the Mississippi Basin, its freedom from hostile craft must be maintained. In the plan for the defense of the Gulf of Mexico, our naval stations at Key West, Pensacola and our harbors at Mobile, New Orleans, Galveston and our naval stations at Guantanamo, Cuba, form a chain of bases for army and navy. The mobilization of field armies drawn from North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Texas, Arkansas and Oklahoma would be the natural move in case of a threatened attack. Our land batteries in harbors and at naval stations should be brought up to a higher degree of proficiency by the installment of larger calibre guns and the construction of special railroads for the movement of portable artillery. Our coast artillery force should be recruited to the maximum.

Supplementing these agencies of defense should be the mobilization of all river and sea-going craft in the Gulf of Mexico area and the protection of harbors and river mouths by mines and other modern protective devices.

The strategic position of a fleet in the Gulf of Mexico arises from the fact that it can be readily dispatched to the Atlantic seaboard or to the Caribbean; through the Panama Canal to operate on the west

coast of South America or the west coast of North America; for dispatch to the far Pacific, or to be held to operate in any portion of the Gulf of Mexico or the West Indies.

One of the greatest necessities in the matter of national preparedness is that our naval bases be brought up to a high point of efficiency and that in the matter of dry-docks and repair shops nothing be left undone to make them available for handling our major vessels as well as the lesser units of the naval establishment.

It can never be overlooked that the ultimate reserves of the United States in men, in food and in materials necessary for war must be drawn from the great area that is comprised in what is broadly termed the Mississippi Basin. This country could stand a blockade of both the Atlantic and Pacific coasts and survive better than it could to have the Mississippi Valley pass into control of an enemy.

We have had the startling war plan of Germany outlined by which a coalition with Mexico and Japan was to be accomplished through the invasion of the United States across Mexican territory with the purpose of dismembering the Union. This was to be accomplished, in the bland German view, by offering to return the State of Texas, which, in itself, is so extensive that the German Empire could be set in it; and, besides the return of New Mexico, Arizona and portions of California that were ceded by Mexico at the end of the Mexican war, the German war plan comprehended marching transversely across the Mississippi Basin, with Chicago as the ultimate goal. This would have divided the Continent, cut communication

with every transcontinental railroad and would have effectively prevented the mobilization of our national resources.

That such an audacious plan can be seriously conceived and proposed to a great nation such as Japan and to Mexico shows that our belief in perpetual peace hung on a thin thread. No move that can be made to strengthen our control of the Gulf of Mexico should be neglected, and every one in this nation, whether resident in Portland, Orègon, or Portland, Maine, Duluth or San Francisco, Jacksonville, or Denver, is as vitally affected and should be as keenly appreciative of protective measures as the citizens who live along the coast of the Gulf of Mexico.

CHAPTER XXXVI.

MEXICAN BORDER DEFENSE.

From the experience which the United States army has gained since an expeditionary force was sent into Mexico in pursuit of the bandit Villa the country has had an opportunity to form some idea of the magnitude of modern military operations. Although less than a hundred thousand men were mobilized on the Texas side of the Rio Grande River and a small force of regulars was sent into the State of Chihuahua, Mexico, under command of Col. Pershing, the military supplies of the army were found inadequate, and in commissary and aviation departments in particular there was a breakdown that prevented successful operations in the enemy country. The peculiarities of climate along the Mexican border, from Brownsville, Texas, on the Gulf of Mexico, to San Diego, Cal., on the Pacific coast, and covering a line of more than 1,800 miles are such that a field army must be provided with equipment that would not be necessary for operating in a temperate zone.

The difficulties in operating along the Rio Grande are comparable to those which the British army encountered in their advance up the Tigris River in Asia Minor. Vast areas of land adjacent to the Mexican border in Arizona and New Mexico are little more than deserts and the very greatest difficulty is ex-

perienced in getting water and in accomplishing transportation. For the past three-quarters of a century the Mexican border has not been regarded as a menace to the United States as the activities of our army in that quarter have been confined to checking border cattle raids and occasional bandit raids when a revolution in Mexico was in progress.

As if in a day this has been changed by the potential danger that is suggested in Mexico through the German intrigue which sought to array the Republic of Mexico against the United States.

We now realize that the entire length of the Mexican border, following the course of the Rio Grande, from Brownsville through El Paso, Texas, must be guarded against the possibility of an invasion not only of armed Mexicans but of any other power that might act in unison with Mexico, or having already acquired control of Mexico, pass on into United States territory.

The rich mining deposits in New Mexico and Arizona and the railroad system which connects Denver, Trinidad, Albuquerque, El Paso, Tucson, Yuma, Los Angeles and San Diego are of such importance that their protection must be guaranteed by adequate military forces. The greatest protection for the Mexican border patrol would be an adequate fleet of airships for scouting and a sufficient force of cavalry and motor vehicles. The geographical character of the Mexican border line places the United States open to a serious flank attack unless the Rio Grande and the northern border of Mexico touching on Arizona and New Mexico are properly protected. The meagre population of New Mexico and Arizona, as compared

to their territorial extent, makes it imperative that a mobilization plan be devised that would immediately concentrate on the Mexican border forces drawn from California, Nevada, Utah, Colorado, Kansas and Texas, States contiguous to or near the border. Such a group of States contributing their proper proportion of militia mustered into the Federal service and volunteers could be depended upon to create an army of 250,000 to 300,000 men to supplement the regular border patrol for emergency call. We are fortunate in having a net work of railroads, many of them connecting directly with transcontinental lines that would effect rapid mobilization. Following this concentration should come the regular army forces in sufficient number to relieve the State troops and volunteers.

Acting in conjunction with our land forces we are in a position to bring immediate and heavy naval pressure against Mexico from the Gulf of Mexico, from our stations in the Panama Canal zone and from the Pacific coast. The utter inadequacy of the Mexican navy makes it possible for the United States to freely use its naval forces in the Gulf of Mexico. Through an expedition that could proceed up the Colorado River, at the head of the Gulf of California, an army could be transported from any point on the Pacific coast, from Washington, Oregon or California, or from the Atlantic coast, passing through the Panama and brought into action in the rear of any Mexican expedition that attempted to cross the Arizona or New Mexico line.

In the Gulf of Mexico and in the Caribbean Sea our naval forces would be able to exert controlling power upon the Mexican cities of Matamoros, Tampico, Vera Cruz, Campeche, Progreso. With these ports

closed, blockaded or captured, Mexico would be prevented from access to the outer world by sea on the east. The Pacific fleet could close the ports of Tehuantepec and the other lesser ports on the west coast of Mexico.

The plan of the United States, however, must include the possibility of Mexico being aided by a prime nation. Should such a power as Japan, for example, co-operate with Mexico, a formidable navy would have to be encountered. The United States in such conditions would have the advantage of home bases as opposed to Japan with its nearest home station 4,800 miles from our Pacific coast.

In the event of a strong alliance of powers with Mexico and the necessity for the United States to repel a serious invasion, the full power of our army and navy could be exerted on three fronts—namely, the Gulf of Mexico, the land border and on the Pacific coast. This places Mexico, which is a gigantic peninsula, in much the same position as Greece in the Mediterranean. It gives the enemy of Mexico an opportunity to bring pressure by land and water along extensive fronts and makes the defense of Mexico exceedingly difficult.

A latent danger to the United States from the Mexican situation lies in the large number of Teutonic aliens who are now in Mexico and who are believed to be waiting an opportunity to incite a revolution. A large percentage of these are trained reservists, and if they were to be supplied with arms and ammunition they could be created into a sizeable armed force. It is, therefore, most important that no arms or ammunition should reach Mexico from the United States or

through other channels at this critical juncture, whether intended for the provisional government or for private account. The danger is too great that every gun and bullet may eventually be turned against the United States.

The surest guaranty of peace in Mexico is to disarm bandits who infest the border.

CHAPTER XXXVII.

PACIFIC COAST DEFENSE.

In considering the matter of the defense of the Pacific coast a more difficult problem is presented than the average citizen is inclined to appreciate. In the first place the States of Washington, Oregon and California all bordering on the Pacific and the adjacent inland States of Idaho, Nevada, Utah, Arizona, Montana, Wyoming and New Mexico are not manufacturing centers. They have in comparison to their area a small population and there is no immediate method of intensifying their productivity in matters of munitions or in making heavy drafts upon them for military strength to cope with a serious menace.

It is necessary for the United States to have its defensive program on the Pacific coast include an adequate supply of arms, munitions and supplies for the commissary available on the west side of the Great Divide; to provide for a serious attack from an enemy approaching at any point from Vancouver to Lower California. The Pacific coast offers very few ports, and for this reason the naval and military stations at San Francisco should be made as impregnable as Great Britain has made Gibraltar. Seattle in Washington would be available only as long as Great Britain was not arrayed against us, but with the British navy to contend with access to Puget Sound would be shut

off and Seattle and Port Townsend would be blockaded. In Oregon, Astoria is the principal seaport and the entrance to Columbia Bay, into which the Columbia River flows, should be made a strong defensive point. At the southern extremity of California the facilities of San Diego Bay should be brought to their maximum, as this would be our first port of call from the Panama Canal. It would also serve as the original base from which to direct an invasion of Mexico from the west.

All of these details in connection with the Pacific coast defense have been worked out in theory by our war college and by the students of our military and naval academies, but the people of the United States whose Representatives and whose Senators must appropriate funds for carrying out such plans are not familiar with the enormous work involved in adequate preparedness for a nation whose continental territory embraces three million square miles.

Our dreams of living forever at peace with the world cannot now be cherished, and the safe and proper thing for a nation of 110,000,000 people is to authorize their representatives to order universal military service and provide full and complete means of defense and offense for the armed servants of the people.

As an indispensable feature of Pacific coast defense must be the means for expeditionary forces to originate from San Francisco or San Diego. An assault upon our insular possessions in the far Pacific or upon the Panama Canal from the Pacific coast side would require the immediate despatch of an expeditionary naval force, and this, as was shown in the Spanish-

American War when Dewey entered the Bay of Manila, would have to be followed by a supporting army. Such problems are now to be considered not in the light of theories, but of actualities which this country must be prepared to meet.

The development of a complete and effective aviation coast patrol for the Pacific coast is as essential as that one of similar character should be organized for the Atlantic coast and the Gulf of Mexico.

The results of the world war cannot be foretold and at the present time the weakest front which the United States presents to the world is its Pacific coast. Anything that will strengthen this it should be the duty of Congress, speaking for the nation, to have done. It is fortunate that in the distribution of natural reserves California possesses limitless supplies of oil to furnish fuel oil, gasoline and lubricants; that Washington, Oregon and California have an arable area sufficient to supply their populations, and, in fact, if intensively cultivated, to supply the United States with grains and all necessary foodstuffs. Such a territory if it fell into the hands of an enemy would make them self-sustaining without the need of a transport service to their home country.

At a safe distance from the Pacific coast, and still available for transportation over our transcontinental railroads, are the supplies of coal and iron in the Colorado district. Further, there are exhaustible supplies of copper in New Mexico, Arizona, Utah, Idaho, Wyoming and the other Rocky Mountain and Sierra States. With such potential resources and with a liberty-loving people the western portion of the United States should be made so powerful that no nation

would dare to attack us from this quarter. At present it is the most inviting front exposed to attack.

One of the greatest motives for the adequate protection of the Pacific coast is that it furnishes the United States with a means for building fleets of naval and mercantile vessels and placing them in commission, independently of the Atlantic or Gulf of Mexico facilities which we possess. This power should be utilized to the fullest extent and our ship yards and machine shops on the Pacific should be given every encouragement. We are at present building important naval units on the Pacific and this policy should be followed in all further allotments for naval and merchant ship construction.

CHAPTER XXXVIII.

PANAMA CANAL DEFENSE.

Viewed in its international aspects the Panama Canal is a national liability of the highest nature. We expended more than \$400,000,000 in the completion of the canal, and upon putting it in service adhered to the broadest interpretation of our treaty with Great Britain, making the canal open to all nations on equal terms. We thus imposed upon ourselves the same obligations in the matter of canal fees that we demanded from other nations and further obligated ourselves to the defense of the canal zone. At that time there did not appear to be any likelihood that the United States would be involved in a world war. Events in the last two and a half years have moved so rapidly that we are now in a war not of our own choosing, but one which has been forced upon us in spite of our acting with strict neutrality toward all belligerents.

The Panama Canal Zone constitutes the short route from the Atlantic to the Pacific, and vice versa, and now that we have utilized this and adapted our commercial and military plans, with the use of the Panama Canal as a prime factor, it would be a serious setback if the canal should be put out of commission either by blockade or the destruction of the locks.

The first consideration in the defense of the Pan-

ama Canal and zone contemplates guarding the eastern entrance. The approach from the Caribbean Sea is the one which it now appears would be open to the first attack in the event of German sea raiders breaking through the North Sea cordon of British battleships. Even with submarines there is a latent danger that injury could be done at the entrance to the canal. Our work of fortifying the breakwaters and the direct approaches of the canal has been progressing in routine manner, but has not been accelerated under the imminence of war.

The first great system of locks at Gatun represents one of the points needing strongest military protection. Injury to the locks means discontinuance of the canal service and might involve many months or years' delay in repair work. The Culebra Cut is also a section of the canal which needs the greatest protection. By modern use of dynamite the none too secure banks might be shaken and a serious slide choke the canal. As the western end of the canal is reached, the second series of locks, those of Pedro Miguel, have to be adequately protected, as have, also, the next succeeding locks of Mila Flores.

To properly guard the canal requires the co-operation of the navy and army, the army using its coast defense forces and a sufficient body of infantry to properly patrol the zone. The navy must be utilized as a mobile force in the Caribbean Sea and be ready to carry an offensive movement against an approaching enemy.

To be properly guarded against surprise or a siege, sufficient military stores should be kept in the Panama Canal Zone and at a safe distance from either end to

maintain all forces operating from the canal for a period of at least two years. The record of the long sieges that have been brought against Gibraltar since it has been in British possession shows that Great Britain has not overlooked the importance of regarding the entrance to the Mediterranean, the first link in her chain of communication with the Orient, as worth defending.

On a larger scale, but with exactly the same strategic importance, the Panama Canal Zone may be compared to Gibraltar. The narrow strip of land on either side of the canal and the watersheds of the Gatun Lake and the other lakes and rivers forming the natural and artificial course of the canal must be protected by small motor boats such as are used as submarine chasers. These would act as a ready means for patrolling the wide stretches of water along the canal route and be available in case of blockade to act against submarines at either end of the canal.

With an adequate foreign intelligence service in the Panama, U. S. of Colombia and in the Central American States no formidable mobilization of forces could be made for land action against the canal without our Government being apprised. Therefore, the chance of an armed expedition of Pan-Americans moving against the canal is remote. The danger is chiefly from attack by naval forces and expeditionary armies from the Eastern Hemisphere.

On the west coast the protection of Panama Bay and the approach to the canal entrance and break-water must be accomplished in the same manner as the eastern entrance, by a fleet of scout boats and a re-

serve of battleships competent to carry a rapid and active offensive to an approaching enemy fleet.

Heavy coast artillery is located at the fortifications of the Panama Canal, and supplementing these must be a full supply of mines and protective nets. There must also be permanently located there a sufficient squadron of air planes and hydroplanes to permit of extended oversea observation. The use of airships for scouting at great distances from either end of the canal is the best assurance we could have against surprise attack. Wireless stations of the greatest range should be located at each end of the canal. The one at Cristobal would cover the eastern territory and in emergency could serve to keep in touch with the Pacific coast of the United States. The one near Panama City would serve in the ordinary course to keep in touch with the entire Southern Pacific fleet and with San Francisco. By having two high-powered stations in the zone, the chance of either one being out of commission would not paralyze the indispensable service of wireless to and from the zone.

It would not be too much to make the army and navy plans for the canal contemplate the residence of at least ten per cent. of the regular forces of the United States in this area. Our army and navy should arrange to have a constant changing of the units that are assigned to the canal zone, so that, covering a period of given years, practically all officers and members of the engineering staff of the army would have had some service along the Panama Canal and all members of the navy would have had the education of actually passing from one end of the world's greatest artificial waterway to the other. This would be

insurance of the highest character, as it would make the men who have to defend our possessions familiar with the problems that would have to be solved. A large force always available within the Panama Zone could be drawn upon for action either on the Atlantic or Pacific coast for our mainland or for our scattered possessions, or could be made into a quickly available expeditionary force to be sent to any quarter of the world. This would be following the wisdom of Great Britain in maintaining a strong force in Egypt, available for action in the Mediterranean or to be sent as an expeditionary force through the Suez Canal or west through the Straits of Gibraltar. Our problem would not be as hard to solve, as we would have no hostile tribes to repress as is the case in Egypt.

Our duty is to make the Panama Canal Zone a national asset and not a hazard. To do this the zone must be strongly protected and made a military station of the first magnitude with ultimate rail connections to North and South America.

As a preliminary move in this time of war notice should be sent to the nations of the world that all ships passing through the canal must have their passengers and crews kept below and with portholes closed and curtained, the ship's navigation being entrusted to United States officials. This would prevent any observation of military arrangements for the protection of the zone and would guard against the possible escape of enemy spies on neutral ships while making the passage of the canal. This regulation could be extended to cover all United States merchant ships as well, so that no advantage would be given our own private shipping as

compared to that of foreign nations which might be regarded as abrogating treaties.

In time of war another restriction which should be put on the canal and made binding would be that none but Allies of the United States be permitted to have their armed vessels pass through the canal. This arises from the fact that in the world alliance a readjustment of coalitions is not within the control of the United States and that at any time a foreign power, friendly with us, might suddenly be allied with our enemies, and no military information should be made available.

CHAPTER XXXIX.

CANADIAN BORDER DEFENSE.

Since the days of the American Revolution and the conclusion of peace the greatest friendship has existed between Canada and the United States. Our citizens have regarded the inhabitants of the Dominion as cousins in respect of mutual ancestry and in the fact of their having practically the same institutions guarding life, liberty and the full protection of citizens in the enjoyment of the widest human rights. Except for a tariff there has been no barrier put upon the passage of citizens of the United States or Canada entering either country. We have in the United States a very large number of citizens of Canadian birth and they represent some of our most prominent and successful men and women.

Within recent years many thousands of farmers in our Northwest and Middle West have migrated to Manitoba, Saskatchewan, Alberta and British Columbia. The Canadians have access to Alaska for moving the products of the Yukon, their great mining territory, and along our Great Lakes system, Ontario and Quebec enjoy the mutual privileges on Lake Superior, Lake Huron, Lake Erie, Lake Ontario and the Niagara River.

The States of the Union that border on or are on waters facing Canada include, from east to west,

Maine, New Hampshire, Vermont, New York, Pennsylvania, Ohio, Michigan, Wisconsin, Minnesota, North Dakota, Montana and Washington. To this must be added States which border on the Great Lakes and would, therefore, become subject to naval attack in a situation that would make us face Great Britain as a foe. These States include Illinois, with Chicago on the lake front; Wisconsin, with Milwaukee as a lake front city; Indiana, with Michigan City as a lake front city; Ohio, with Cleveland as a lake front city. Under these conditions sufficient protection should be given our northern borders to safeguard them from invasion. Parallel national highways, running from east to west, and at distances from the transcontinental railroads, offer feasible and effective lines of communication. A grand, national highway, passing from the State of Maine to the State of Washington and at a reasonable distance from the Canadian border, could constitute the first transcontinental highway. South of this should be another highway running from Chicago to the Pacific coast. The great projected and partially completed Lincoln Highway represents another of these parallel roadways that should be pushed to completion. South of this, and passing through St. Louis, Kansas City and thence to the Pacific coast, should be another grand highway, and from New Orleans to El Paso one should cross the States of Louisiana and Texas. From El Paso a national highway should pass through Deming, Tucson, Yuma to San Diego.

Running north and south and transversing these continental highways should be Federal highways reaching from the Atlantic and Gulf coasts to points near the Canadian border or the shores of the Great

Lakes, and on the Pacific coast, running from the Mexican border to points near the Dominion line. The construction of these roads should be accomplished as promptly as possible; they should be of concrete so as to be serviceable twelve months a year. Some basis for the Federal government paying half and the States traversed paying their proportion should be settled upon.

No work of permanent military character could be of greater importance than good road construction. The placing of these roads at sufficient distances from railroads would guard against the untoward circumstance of any of our railroad systems falling into the hands of an invading army. If our usual method of having a highway run parallel to and immediately next to a railroad were to be followed in constructing these national military roads the highway and the railroad might both be lost at the same time.

When completed this system of national highways would form excellent lines of communication for the movement of our troops and transport motor trains and would always be available for the use of our citizens in the transaction of their daily work and for touring. It should be the purpose of those having the planning of our highways to make them at least one hundred feet wide with an intervening area suitable for parking, so that traffic would pass right and left and avoid confusion and collisions. These national highways should be so planned as to provide two sidewalks, two bicycle and motor-cycle paths, three plots for trees, one on either edge of the road and one in the center, and two concrete roadways for right and left traffic. Work on such a plan is not to be viewed in the

light of a transitory, military undertaking, but as a permanent betterment of the country, indispensable in war time and invaluable in times of peace.

CHAPTER XL.

GREAT LAKES DEFENSE.

In the treaty relationship between the United States and Great Britain covering the Canadian border, each country is estopped from maintaining armed vessels on the Great Lakes. This has been one of the chief causes for building up the strong friendship which exists between Americans on each side of the border line. There is no present reason for imagining that the friendly relations between Great Britain and the United States which have remained unshaken for more than one hundred years will be strained during the present world war. The differences which have arisen since August, 1914, from the conduct of the British blockade of the North Sea, have been in regard to technical violations by Great Britain of international law, but dealt only with material things. Great Britain has been punctilious in protecting the lives not only of neutrals, but of the Teutonic peoples who came under control of the British in open military and naval activities.

The partial interruption of our mails, destined for Germany and her Allies, or to countries that were not adhering strictly to neutrality in the matter of checking contraband from entering Germany, has been a cause of some annoyance and business delay to some citizens of the United States, but England's general

conduct of the blockade has been in strict conformity with international law.

Where merchandise has been commandeered adequate compensation has been given. Where contraband goods have been apprehended in transit, even these have, in nearly all instances, been taken over by the British government and paid for, which was a gratuitous act on the part of the government. In some instances confiscations have been made of contraband without compensation, but this was in strict conformity with international custom.

These facts form the broad basis for the belief that the United States and Great Britain will not become estranged during the present war. It makes the circumstance unlikely that our Great Lakes will have to be protected by armed ships against Canada.

Perhaps the only contingency that could arise to make this necessary would be if the Dominion of Canada was to be invaded by enemies of Great Britain. We would then be free, under our treaty, to immediately protect our Canadian border from Maine to Washington and to place armed vessels on the Great Lakes. The effort should certainly be made to so alter our treaty relations with Great Britain that both Canada and the United States should be privileged to operate vessels of minor naval importance on the Great Lakes. This would affect the members of the naval reserve and the similar organizations in Canada, and permit young men in the lake regions to gain experience in seamanship and gunnery under actual war conditions. It would not then be necessary for men in our Middle West and northwestern States to go either to the Atlantic or Pacific coasts to have actual naval

training. The similar advantage would be offered Great Britain in what has proven to be one of her most loyal domains.

From a land aspect we are prevented from building forts or other military works near our northern border, just as Canada is bound to keep a neutral zone near its southern border line. Except for the points of conduct where customs inspectors stop citizens from the United States passing into Canada and Canadians entering the United States the relationship between the two great bodies of people is as close and cordial as that existing between any two adjoining States of the Union. Canada is our greatest customer for all classes of merchandise. There is an import trade between the Dominion and the United States. It would take a tremendous mental upheaval to array this country against its northern neighbor, or to prompt Canada to attack the United States.

The United States Government, acting independently of any State assistance, should make the water line from Chicago to the mouth of the Mississippi available for ocean-going vessels. Chicago, now the second largest city in the United States, the greatest railroad center in the world and the center of population of the United States, should be afforded a waterway for vessels reaching all points of the world without having to break cargoes in transit. With the Chicago canal joining the Mississippi and ships of moderate tonnage capable of entering Lake Michigan our inland water system would then be made available for ships to leave Duluth, Marquette, Mackinaw, Detroit, Buffalo, Erie or Cleveland and reach the high seas. This would give ore ships, lumber and grain ships the

advantage of loading at our Great Lakes ports and making clear passage to any port in the world.

The length and depth of locks in canals in the system joining the lakes with the Mississippi should be sufficient to permit the passage of naval vessels of the type of submarines moving on the surface, submarine destroyers, despatch boats and the other minor craft of the navy. In accomplishing this military purpose the waterways would also be available for our merchant craft.

As the inland waterways of the United States are under domestic control it is to be hoped that we will be alert in protecting our interests in not opening these canals and waterways to foreign shipping to compete against our own interests.

All existing treaties of the United States comprehend the entrance of foreign vessels to our now existing seaports. The development of new ports by the construction of canals would give us the privilege of utilizing them without extending a free privilege to other nations. On the matter of tolls we have yielded to the importunities of Great Britain in the Panama and charge our own merchant ships a tonnage fee exactly the same as foreign ships are required to pay, because of an ambiguous treaty clause. In future national preparedness should be considered as paramount in negotiating all treaties and our actions should not be needlessly impeded.

If our inland waterways are brought to a higher development and lake ports are made available for direct ocean shipping we should monopolize this advantage or secure reciprocal advantages from countries that wish to send ships up the Mississippi and into our

Great Lakes waterways. In this connection it might be well to arrange with our friendly neighbor, Canada, to have a connecting canal that would make the St. Lawrence River accessible for our ships to pass to and from the Great Lakes. With such an advantage both the Dominion and the United States would find their trade relations improved and their defensive potentialities multiplied. The coalition fleet of Great Britain and the United States with the advantages of this country and the British Empire would make these English-speaking nations the dominant factor in the world at the conclusion of the present war.

Instead of depending upon separate projects for the control of the Mississippi levees and for the improvement of the Chicago ship canal, the present Congress should harmonize these improvements and provide that work begin at once as one of the most necessary moves toward national preparedness. With our army being increased to a war standing thousands of new officers will be employed and they should be more than drill masters. Great engineering projects can be undertaken, and in place of working the men to exhaustion in marching and counter-marching and in field tactics, after a point of proficiency is reached, the main part of the army could be directed to accomplish an improvement in our waterways and highways. It could also serve to properly drain our great Mississippi basin and thus increase the productivity of our richest agricultural areas.

All of these improvements centering in the Middle West and up the Mississippi valley join directly to the question of a proper defense of the Great Lakes in the extreme probability of Canada being hostile to the

United States or being invaded by an enemy. Any hostile armed force entering Canada would be a menace while on American soil, and be construed into a foe of the United States. This is a fact which is the spirit of our Monroe Doctrine and our national policy is to resent and oppose aggression against territory in the Western Hemisphere.

CHAPTER XLI.

GOVERNMENT AND PRIVATE MUNITION PLANTS.

It is by distributing risks that the great insurance companies are able to make a low premium rate on lives, health, indemnity, fire and all classes of property risks, as well as to insure business ventures against losses on land or sea. Their rates are figured by expert actuaries who determine the percentage of risks covering many cases and strike an average. It is then possible to pay losses by having a large enough number of policyholders to create a surplus fund for this purpose.

In exactly the same way the great military nations of the world have discovered that the proper way to insure themselves against lack of military supplies is by distributing the orders given by their governments among private munition manufacturers, as well as allotting a certain percentage to government-owned plants. In practice this has brought Great Britain, Germany, France, Austria, Italy, Japan, and even Russia, to a point where these nations and empires have been able to meet the stupendous demands of the present world war.

Taking as an example the past forty years, it is seen that the Imperial German government encouraged the development of the Krupp works and the munition manufacturers in Essen, Dusseldorf and in other manu-

facturing centers throughout the empire. Encouragement was given to private manufacturers of airships and motor engines, and great quantities of motor trucks were purchased as an encouragement to the new automobile industry. France likewise extended generous support to private plants for the manufacture of arms, ammunition and all other war accoutrements. Japan and Italy followed the same policy.

In the case of Great Britain her small arms manufacturers received government orders and were encouraged to seek business throughout the world. On heavy ordnance such plants as the Enfield attained world-wide reputation for producing large naval and land defense ordnance and shells.

When the supreme moment came all of these nations were able to turn to their private munitions plants and ask for intensive production. Skilled operatives in all of these plants knew how to make goods on government order, and there was not a moment's delay in getting the wheels in motion. As the war extended and became mammoth in its proportions, additional plants, patterned on those already in operation and well organized, were added. Operatives were distributed and acted as coaches for the unskilled who were enrolled by the government munitions departments.

Applying the conditions to the United States it is clear that while we have remained a peaceful and distinctly commercial nation for the past fifty years one result has been to prevent our keeping pace with the other leading nations in the matter of armament and reserve supplies of military equipment, or the creation of a military reserve in men.

A few enterprising manufacturers have gone into the ordnance business, but have not received enough orders from the United States government to make this feature of their work very profitable.

There are no plants in control of or operated by the United States government equipped to produce small arms or heavy ordnance ammunition or miscellaneous munitions in quantities needed to equip an army of 500,000 to a million men. Nor have we the facilities for furnishing our navy with material from Federal plants.

The survey of the United States by the board of national defense shows that there are more than 30,000 manufacturers who are registered and willing to accept government orders for some part of the necessary war equipment of the nation. It should, therefore, be the policy of this Government to distribute its orders and encourage the development of skilled artisans employed in our private plants in handling government work. It took a full year for England to mobilize a sufficient force of skilled operatives to create supplies adequate to meet the requirements of her field armies and for building up a reserve for the protection of the empire. Russia has not yet arrived at a point where the production of munitions is equal to the necessities of her armies and her fleets.

There does not seem to be a reasonable ground upon which to base the assumption that the United States, over night, could have a flow of satisfactory supplies produced in unorganized industries. On the question of powder and high explosive shells alone, the experience of years is needed to produce satisfactory results.

One of the largest steel corporations in this coun-

try is on record with the statement that it has spent hundreds of thousands of dollars in a fruitless effort to produce high explosive shells that will meet the test of our army and navy. If this is the case in a plant regarded as one of the most efficient in the world, what would result from the turning over of contracts to organizations that had never even experimented in the manufacture of ordnance and large projectiles? Delay would be the first result and national disaster might follow.

When the world war created an instant demand for small arms several large and competent manufacturing concerns in this country received contracts for producing army rifles for foreign governments and at once undertook to fill these orders. Lack of experience and inadequate equipment has resulted in great losses on the work and in fatal delays in delivery. In some instances more than 65 per cent. of the rifles are declared to have been rejected by inspectors as not coming up to the specified requirements. In the manufacture of shells for large and small field guns the same result has followed in many plants. The percentage of rejection of materials made in this country has been astonishingly large. The urgent need of the Allies prompted them to be lenient in acceptances. But defective material had to be rejected.

In a few of the highly organized manufactories of this country that are making torpedoes and other articles requiring skilful construction, satisfactory results are attained. This comes from the fact that for years this class of work has been done until the executives and operatives are fully familiar with all details and have practically standardized their production.

A great advantage that accrues to the privately-owned plant is that business other than that derived from the Government must be secured in open competition with the world in order to keep the organization going. This results in the steady employment of a large executive staff and of the actual operatives on machines and in the various processes of manufacture.

It has been the custom with the Government to build a certain number of naval ships and to manufacture a certain percentage of its own powder and munitions, but the work has been done intermittently. The rate of pay in the government plants is not higher than that in the open market and there is no incentive for highly skilled mechanics to work for the Federal government when it is known that such employment is transitory. Many of the great corporations, on the contrary, as in the steel industry and in lines associated in the manufacture of munitions, have employes who have been in their service for periods of 25 years or more and it is the policy to pension such worthy employes.

With the leading munition plants and steel works located in States that have drastic Employers' Liability laws operatives work under the most favorable conditions and are protected as to life and limb.

With the United States facing the necessity of equipping field armies that may aggregate from two to five millions and a navy that is to be brought up to equal that of the world's great powers, there is no time for waiting the slow development of Federal plants. The ones we have should be augmented and additional plants established as occasion permits, but the great pressure should now be brought to bear upon

increasing the production of our privately-owned munition plants so that the necessary reserve in arms and munitions may be speedily assembled. With the capacity of our manufacturers exerted to the full, not only our own needs but our exports to the Allies who are fighting the battles on land and sea for the suppression of rampant militarism can be safeguarded.

The talk of placing rigid embargoes upon the sale of munitions to the Allies emanates from those who are either short-sighted or have the mendacious purpose of weakening the powers that are now closing in on the Central Allies. We are to assemble untrained men to be formed into armies who cannot conceivably use ammunition against an enemy for months or perhaps years. It would, therefore, be an act bordering on imbecility to have great reserves of ammunition in this country that could be put to immediate use in defeating a common enemy.

The great world war has spread until it involves practically every nation in the world and is costing the active belligerents in excess of \$100,000,000 a day, or the cost of the Panama Canal every four days. Such figures are bewildering.

The United States should not add to the unnecessary burden of the people by investing hundreds of millions in the construction of Federal munition plants, when there already exist adequate facilities in private organizations. The course of wisdom dictates that United States officers supervise the work allotted to existing plants and thus exert all energy in meeting the needs of the present crisis.

CHAPTER XLII.

NAVAL CONSTRUCTION IN WAR TIME.

Owing to a policy which has been followed since the conclusion of the Civil War this country has failed to develop its mercantile marine service. As a consequence our shipbuilding facilities have failed to keep pace with our national development in all other lines. With the Civil War came the intensive development of the iron clad as a type of war vessel and iron ships as types for merchant vessels. Our ship yards in New England and along the Atlantic coast to points on the Chesapeake were capable of building the swiftest sailing vessels in the world. When the transition from wooden sailing vessels to steam-propelled iron ships occurred we were embroiled in the Civil War, and England, Holland, France, Norway, Sweden, Denmark and Germany were active in building up freight ships for the transoceanic trade, as well as to handle the shipping of the United States. Immediately following the termination of the Civil War our merchants, bankers and manufacturers concentrated their efforts upon restoring the prosperity of our country and neglected sea transportation to solve domestic problems.

We find now that, except for the building of naval vessels for our Government and for foreign governments that required our superior steel armor plate, this country has fallen behind in the matter of building

deep sea vessels. Private plants found that their only customers were those desiring coastwise vessels, as our navigation laws are so restrictive as to repel, rather than to invite, capital to enter into general shipping. Now that we are called upon to create an enormous tonnage in naval ships under forced pressure, and we need merchant ships to carry our goods throughout the world, it is seen that a proper cultivation of the shipbuilding trade is a matter of national defense and should be restored as one of our cardinal principles.

The construction of naval vessels in war time is a matter that the Government can control by an exercise of its eminent domain and by commandeering plants. It cannot, however, get the full capacity of this nation under such forced pressure for the reason that our ship yards cannot double their capacity or find skilled workmen or the necessary machinery ready at hand. Every ship yard in the United States is now working at full capacity and some are operating on double shifts. This will continue to be the case while war lasts and while the other countries in the war are on an abnormal basis.

Meanwhile this Government should take immediate steps to increase the productive capacity of the shipbuilding plants we have and convert every naval station into a naval construction unit. In the cases of the plants we now operate and that are working on Government contract the strictest military control should prevail.

It would be a national calamity to have any hostile act impede the operations of a plant such as the Bethlehem Steel Company at South Bethlehem, Pa., the Newport News Shipbuilding Company at Newport News,

Va., the Fore River plant at Quincy, Mass., the Submarine Corporation's plant at New London, Conn., or any of the other plants on the Atlantic coast, and our Pacific coast plants such as the Union Shipbuilding Works, of San Francisco, should be guarded as one of our great national assets. To effect this a protective zone should be acquired, surrounding the plants and adequate patrol be instituted by our regular army or units from the State militia of the several States in which plants are located. Supplementing this should be an air squadron capable of repelling hostile air attacks. Anti-aircraft guns on suitable towers should be made part of the protective feature. The entire plants should be surrounded by a barbed wire cordon and access to the plants should be strictly regulated. Such moves are not those of cowardice or unnecessary apprehension, but follow the example that has saved the European nations from having their great munition works and ship yards destroyed by air raids and naval attack. When a great battleship is nearing completion and represents an investment of ten to fifteen million dollars and a lapse of time in construction of from three to four years its loss is irreparable.

Certainly to exercise every precaution to safeguard such a means of national strength is of transcendent importance.

The protection of the great steel works and ship yards that are now engaged on government work should not be left to private enterprise, but be one of the proper functions of the United States government. The location of armor plate plants and ordnance works has been undertaken in part by the decision of the United States government to erect its own armor plant.

This, however, is something which cannot be made available in the present crisis.

We are calling upon and will find the loyal support of our existing private plants given to the people through the Government. As fast as the necessary development can create additional facilities private armor plants and ordnance plants should be located in Duluth, Detroit, Buffalo, Cleveland, Chicago and Milwaukee. These cities can all be reached by ships plying the Great Lakes and can bring ore to the furnaces in the most economical way. At the end of hostilities the plants can be converted to useful commerce. These cities are remote from any of our coasts and would be the least likely to be affected by either naval or air raids. Further they are cities that are available for the heaviest drafts on skilled labor. In railroad and water facilities they are well situated for the carrying of necessary supplies, in conducting such plants and for keeping the avenues of communication open for the support of great populations. All of these circumstances must be given consideration now when time is the chief consideration in striving for national preparedness for the world war in which we are engaged.

CHAPTER XLIII.

AMERICAN OFFENSIVE DEFINED.

American manhood and womanhood must face the stern reality that war is not a matter of defense, but is fundamentally a matter requiring the participant to engage in offensive action. To win a war a nation must overcome its enemy not by words but by deeds. The more vigorous the onslaught the quicker the re-establishment of peace. This brings to the United States the impelling necessity to be prepared to wage an aggressive war against any enemy. Now that we are placed in a position where we must uphold the honor of our Government and re-establish respect for our flag throughout the world, the full armed force of the United States on land and sea must be thrown into action.

The immediate requirements call for the creation of four grand field armies; one for the Atlantic coast, one to protect the Pacific coast, one to operate in the States bordering on the Gulf of Mexico and on the Mexican border, and a fourth to be equipped and entered into the fighting zones of the world war where the battle of civilized nations against barbarism is being fought.

National honor and national courage are subject to the same test today that they have been since history began. No nation can win an honorable war

on the defensive and no nation can ask to benefit from the results of a general war in which it does nothing further than act as a camp sutler and sublimated banker. It is not dollars and it is not food that will make the citizenship of the United States stand forth before the world as courageous. Our army and our navy must find its place in the battle line, showing in valorous deeds that we are sons of patriots who dare to fight for liberty and its maintenance.

The first American offensive should include the despatch of as large a proportion of our navy as can be immediately gathered in the Atlantic waters and sent to join the Entente Allies. While England, France, Italy and Japan unite to hold the German and Austrian fleets in their home waters the United States is not in danger of attack by a Teutonic high sea fleet. It, therefore, is a strategic as well as an honorable act for the United States to throw the weight of its naval armament against a common enemy.

Our next offensive move should be to send an expeditionary force to one of the battlefields of Europe and to maintain this force without drawing upon the resources of the country to whose succor we go. The natural field to cover would be France, where the Entente Allies are now waging a victorious campaign and are gaining ground and lifting the enemy out of his trenches. For the United States, with its present small available army, an expeditionary unit of 40,000 men would be sufficient to show our intent and could be followed by other units as rapidly as they could be assembled. It was for the moral involved that Russia sent a contingent of some 40,000 men to France and an equal force to act with the Entente armies under

General Serral at Salonica. The presence of the Russian troops in the battle line gave eloquent token that the great empire, now verging to a republic, was in the war to win lasting victory and would have none with a separate and ignominious peace.

The other offensive move of the United States under present conditions should be in bringing an immediate settlement of the Mexican question. This is a matter of supreme importance as it leaves a great flank open to possible assault. Temporizing with the Mexican question from now on would be governmental madness. No general or no admiral would consider his position safe if he were flanked or quartered by such a formidable menace. This nation has done everything within the bounds of reason to bring peace and stability to Mexico, and now by a supreme effort a stable government should be re-established in the sister republic on our southern border. All of the military forces that will be called together from western, southern, northwestern and middle west States should be concentrated on the southern border and trained and drilled where they will be taught actual field manoeuvres and at the same time be available to defeat any aggressive move from across the Mexican border, while our diplomatic representatives negotiate the settlement of the Mexican revolution.

Our navy as it reaches a grade of efficiency and enlargement, under the enormous program now adopted, should be concentrated into a punitive force and sent against Germany for the purpose of compelling satisfaction for the wilful murder of our citizens on the high seas and wanton destruction of our property and disregard for sacred treaty obligations. The

destruction of Germany's high sea fleet, without the participation of the United States, would be a matter of national dishonor. Our war with Germany is one due to unparalleled aggressions and atrocities, and this nation cannot remain quiescent or passive, having once accepted the gage of war. For American battle-ships to ride at anchor in American harbors would be a strange culmination for the history which has written American sea annals as among the greatest in the world. Every man in the navy of the United States can be counted upon to do his duty, and the place for every available ship in our service is on the high seas seeking an engagement with the enemy.

CHAPTER XLIV.

PROTECTING OUR EXPORT TRADE DURING WAR.

Every nation that has ever developed an overseas trade has been jealous to protect it and when engaged in war has not neglected sending its merchant ships under heavy convoy when necessary. This was the practice when Spain dominated the Western Hemisphere and was supreme throughout Europe. It became the fixed policy of Holland when the Dutch admirals and the Dutch merchantmen ruled the seas for the better part of two centuries. When maritime supremacy passed to Great Britain the policies of maintaining a supreme high sea fleet and the building up of a merchant marine were adopted by the government and have since been adhered to without deviation.

With the United States our history shows that during the Revolution we struggled with a small navy, but still had audacious merchantmen that defied the British fleets and continued to trade with Europe and with distant countries in the Pacific and Indian Oceans.

In the period from the Revolution to the War of 1812 our merchant vessels increased in number, but our navy was allowed to decline, and it was not until we were engaged in a struggle to retain our hard won liberties that our ships-of-the-line were increased in

number and our activity as a sea-fighting nation became intensified. During the Mexican war, because our enemy was poorly equipped from a navy standpoint, no notable engagement occurred, but our success was due to the landing of our expeditionary army at Vera Cruz under the protection of our fleet.

Our Civil War accentuated the necessity of a navy, and our lack of one during the first three years resulted in the serious breakdown of our export trade and the almost complete dislocation of our imports. Confederate raiders and the armed vessels of the Confederates preyed upon our shipping so successfully that the American merchant marine as it existed in 1861 was all but obliterated by the time peace was declared in 1865. At the same time that our shipping was being destroyed the vessels in control of the Confederacy were being hunted down and sunk by the United States Navy. Thus we were being doubly injured as all losses after the restoration of the Union had to be borne by the citizens of this country.

From 1865 to the present day we have never renewed our ascendancy as world shippers, but have had to depend upon foreign vessels for carrying over ninety per cent. of our tonnage.

In a world war, such as that which is now raging, the United States must protect its own export trade by having ships, under the American flag, on a basis that will permit of their being operated by private enterprise. Every encouragement should be given to the construction of standardized vessels of moderate draught, averaging from 3,000 to 10,000 tons. In order to keep the channels of trade open, where necessary, this Government should adopt the policy which all

other sea-faring nations have found to be sound and escort our merchant ships with a suitable convoy.

While the navies of the Central Powers are bottled up there is no menace to our ships except from attack by submarine; but the latent danger rests in the escape of surface raiders from the North Sea or the Mediterranean. During the past thirty months or more the world has seen what devastation can be wrought by a single armed vessel when it ravages the high seas in search of merchant vessels to be sunk with or without notice as the action of the commanding officers may dictate.

This country is successfully establishing dollar exchange throughout the world as a basis for foreign credit and to attract trade to the United States. It does not serve a practical purpose to establish banking facilities for trade when we have few ships to carry our goods and when all orders cannot be filled. Our first step toward safeguarding our export trade should include the negotiation of trade treaties with all of the Pan-American countries that can be interested in a closer association with the United States.

If our Monroe Doctrine imposes upon us the sacred obligation of guaranteeing the smaller republics of the Western Hemisphere against assault from any foreign powers, a reciprocal relation in matters of trade should not be difficult to secure. It must be our navy and merchant ships that will qualify us to maintain our export trade during the present war where tonnage is scarce and in the days of peace when each nation, now engaged, and the neutrals, as well, will use their ships for the upbuilding of their own trade.

Not with regard to the present hour only, but in the widest aspect that the United States can view the matter of preparedness it should aim, through its statesmen, to develop a system of communication in the Western Hemisphere that would comprehend, within thirty years, the extension of our railroad systems so that there would be an unbroken rail communication from Alaska to the Panama Canal, and from this point along the western coast of South America to Valparaiso, and on the eastern coast of South America railroads extending to Buenos Aires. We have on the continent of North America two transcontinental roads in the Dominion of Canada and five transcontinental lines in the United States. With one to be constructed from New Orleans, passing through Texas and bordering the Gulf of Mexico, and extending to the Panama Canal, railroad communication from the Atlantic seaports to the Pacific would be complete. The development in South America of so prodigious an undertaking as projected to connect that continent by rail could only be attained by having the stability of the southern republics unqualifiedly guaranteed. We have uttered our intention in the Monroe Doctrine, now 100 years old, and must prove to the world that we are capable of giving force to our declaration.

As a matter of protection for our export trade nothing could be greater than the control of the railroad systems of the Western Hemisphere by American interests. Supplementing this should be an adequate mercantile marine and a navy for its support.

For trade in the Eastern Hemisphere the line of least resistance and greatest potential development lies in cultivating the friendship of Russia, China and

Japan by constructing railroads for reaching Alaska and connecting thence with Asia at the Behring Strait. Rail communication with the Orient could be accomplished through aiding in the extension of roads from China through Korea and extending from Vladivostok to the Behring Strait junction. Such a system would give access to the trans-Siberian road to Russia and the other European countries.

The development of trade in the Orient will be one of the most direct and lasting avenues for our exports and will furnish added interest in our Philippine possessions. The co-operation of our mercantile marine in developing our export trade in time of war or in peace is greatly facilitated by the control of the Hawaiian Islands, Guam and the Philippines, which act as stations for trading and for military control. Our purchase of the Danish West Indies would seem to be utter extravagance if we are not to continue our purpose of being a world trade nation and dominant on the high seas.

CHAPTER XLV.

PROTECTING OUR IMPORT TRADE DURING WAR.

As a nation which has developed one of the greatest volumes of import trade in the world, the United States is seriously injured by the interruption to shipping and the extraordinary measures which the belligerents and neutrals have been forced to put into operation for their own protection. Rigid embargoes have been imposed by Great Britain, France, Italy, Russia, Germany, Austria, and the lesser nations, in the matter of materials which are needed for their own consumption and which have heretofore been sold to this country in great quantities. This applies particularly to exports of wool, drugs, machinery, fabrics and many food products.

The cutting off of these supplies has been one of the contributing causes of the high cost of living in the United States, and is even a more serious setback in the matter of cutting down the revenue the Government anticipated would be derived through tariff duties. While some of the articles enumerated in embargoes are on the free list, others were depended upon to bring in money from customs.

Nations with which we have traded for more than a century with unbroken friendly relation have developed into our open enemies and have murdered our

citizens on the high seas by sinking vessels without notice and without attempt at rescue, and have destroyed neutral property of our merchants on ships of other neutrals and on merchant ships of belligerents. All this has been done in utter violation of international law. Our mercantile fleet was small when the war began and has been reduced by these ravages.

Now that we are arming our vessels and are engaged in defending our rights to national existence and to freedom of the seas, it should be part of the functions of the Federal government to aid rather than to impede shipping. Our maritime laws should be so revised as to permit of vessels being registered under the American flag and sent into any sea to bring us the goods and the raw materials we need to continue our normal national existence. This is our safest insurance that our import trade will not be utterly crippled during the war.

In raw materials some of the indispensable articles imported include tea, coffee, spices, sugar, leather, rubber, wool, burlaps, fertilizers, foods, including canned and preserved fish, woolens, linens, raw silk and various textiles. With a nation of over 110,000,000 we cannot instantly increase our productivity in regard to articles in this list that might ultimately be raised in this country and meanwhile our merchant ships and fleet should be utilized to meet the requirements of the nation.

Aside from the commercial advantages of maintaining trade relations there is the political significance of having the United States demonstrate to the world that it is not a supine republic, but is capable of assuming a position among nations in line with Great Britain.

France, Japan and other prime nations that are battling to overcome Prussianism. Our future standing among nations, political and commercial, will depend upon the way in which we conduct ourselves in the present war. Nothing could be more disastrous to our future than to have it stand on the records that the United States had permitted a cabled threat from Berlin to drive us from the seas and to prevent our engaging in commerce with the world. To maintain our position we cannot remain passive and confine our activities to armed neutrality, but must assume the dignity of a nation armed to enforce its rights and to uphold the principles of humanity by waging aggressive war.

CHAPTER XLVI.

MOBILIZATION CAMPS.

It is proverbially declared that republics are inept in matters requiring quick action and concentrated executive effort. This is a result of divided responsibilities and the desire of elective officers to cater to the opinions of their constituents. The policy of "keeping an ear to the ground," to hear what the home folks think, is pardonable in times of peace, but in times of war the supreme question is protection of the State. All other belligerents in the great world war have found that personal privileges and customs ought to be brushed aside and temporarily suspended to effect needed results.

In no respect are we more poorly prepared than in the matter of having mobilization camps in which to gather the hundreds of thousands, if need be, millions of men who will rally to the defense of the Republic. In each of our States there are proper sites for mobilization camps that should be developed to receive the recruits. Such camps should be selected, not to fill some political pledge or for favoritism, but upon the judgment of the organized military authorities in the United States army acting at the request of the Governors of the several States. A Board of Survey for the selection of mobilization camps should include a high United States regular army officer, the

adjutant-general of a State and three surgeons, a regular army surgeon, surgeon-general of the militia and an eminent member of the medical profession in the State. Upon their decision the mobilization camps should be laid out to achieve the greatest sanitary perfection and fill the military requirements for mass drill, extended manoeuvres and field practice.

In mobilization camps no test is adequate that does not reproduce the combination of circumstances which the soldier will find when in active service. Our training camps should not be constructed along the lines of "hot-houses" with board floors for the tents, running water to the tent doors, mess halls and all the camping comforts that would attend a pleasure outing or which are obtainable when troops are in barracks. The men who rally to the colors do not regard service as a vacation, but expect to be drilled as soldiers and hardened to their task. Our militia State camps are distinctly not the pattern for mobilization camps.

It is proper to consider the advisability of having the mobilization camps separate for the militia, volunteer and naval reserve forces. These units would be drilled in their own camps, and when operating in a grand manoeuvre would be brought together. By having the forces separate, but within reasonable marching distance, actual patrol conditions for mimic war could be established and the aviation corps and the intelligence department of each of the camps could operate on the theory that they were facing an enemy. In constructing trenches, in marching and counter-marching and in grand manoeuvres time would be saved in getting into contact, and a continuous and

effective guard line would be imposed upon the several camps. This would be throwing the responsibility of alertness and military precision upon the new forces immediately upon their entering the mobilization camps.

In times of peace camps could be utilized for the regular army manoeuvres, the militia manoeuvres and the practice of the boy scouts and volunteer military training organizations. Diagrams showing the general features of a properly constructed mobilization camp should be distributed to all the States and a uniformity of plan be adopted, where now there is only the loosest co-operation between State units and the Federal departments.

The mobilization camps should be protected by outlying barbed wire entanglements, and all of the various military safeguards that are utilized in actual warfare. The men in the camps while training should be put through the various lessons in defensive and offensive warfare and this requires time and the services of skilled officers. Great Britain did not sacrifice her millions of volunteers by throwing them hastily into war before they were trained, and this must be our guide in the present situation. In every State where militia men are being held in their armories, or where recruiting is done or men are huddled in cities, they should be sent at once into camps and given training in living in the open. Practice in marching and bivouacing are experiences that soldiers should undergo in training and not be forced to take their initial lesson under fire.

CHAPTER XLVII.

HOSPITAL PLANS FOR ENEMY SICK AND WOUNDED.

One of the results of the United States having become the haven for hundreds of thousands of emigrants from many of the European countries and for millions of Teutonic extraction is that in the event of a great war developing between this country and the Central Allies many thousands of able-bodied reservists of Germany, Austria-Hungary, Turkey and Bulgaria will be scattered throughout this country. We have had the sad and enlightening experience that while enjoying the hospitality of this country men of the Teutonic nations have not hesitated to betray our generous conduct toward them by carrying out plots for the taking of American lives and the destruction of American property and have fostered active, armed hostilities against us.

It is, therefore, necessary for the United States to include in its comprehensive plans for preparedness hospital camps where enemy wounded could be cared for or where enemy aliens, resident in this country and enjoying our protection, could be segregated from the wounded of our own armed forces. It would be a dangerous matter to have alien civilians, who might be taken ill during a time of active war and become a public charge, cared for in our public hospitals or in

private institutions supported by the charity of our people. The proper place for the care and attention of belligerent alien sufferers should be in separate hospitals regulated on a strict military basis. It is conceivable that in our participation in the present war we will capture vessels of the enemy, and that prisoners, wounded or suffering from illness, will be placed in our hands. Provision at our seaports should be made for taking care of such cases.

In the event of any large body of Teutonic citizens or foreign residents becoming hostile in their actions and general attitude, it may become necessary for extensive concentration camps and hospital plans to be devised covering the sections of the country where the Germanic populations are largest. Hospital camps of the character described should be under the control of surgeons and veterans of the Spanish-American War, who are too old for active service, but who could be utilized as a proper staff for such hospitals.

In selecting sites for these hospitals they should be located where healthy natural conditions prevail and at the same time should be remote from any of our cities or manufacturing centers, so as to avoid the possibility of contagious diseases spreading.

CHAPTER XLVIII.

WAR PLAN FOR BOSTON.

Because of the vital importance of the New England States from a manufacturing point of view, and from the fact that there is a great congested population in this comparatively small area of the country, the question of the defense of the six States, comprising the New England group, is of extreme importance. Fortunately the eastern border between Maine and New Brunswick and between Maine, New Hampshire and Vermont does not have to be regarded as a military menace as our relations with the Dominion of Canada and Great Britain preclude the likelihood of any hostilities arising between this Government and Great Britain.

Our danger comes from a direct attack by naval forces accompanying a transport of hostile troops. To effect a landing on American soil in the region of New England the German navy, which is the one that is capable of carrying war to this country, in the event of ships escaping the British blockade, could attempt the landing of forces on the New Brunswick coast and then march over land into the State of Maine. An attack could be directed against the coast cities of Maine, or the point of greatest resistance attacked in attempting to capture the port of Boston. The other line of attack, which is the least likely to be undertaken,

would be to approach the Rhode Island coast or to invade Long Island Sound. Because of the shallow waters and the channels which would have to be encountered in such a manoeuver, the attack on Long Island Sound would be precarious. The operation of United States submarines and the effectiveness of shore batteries would be brought to play to greater advantage under such circumstances than against any attack which might be made on Boston or the Maine coast.

As an initial step for the safety of this zone the mobilization of a field army of not less than 250,000 regulars, militia and volunteer forces should be effected. With the excellent railroad communication between Bridgeport and Boston, along the shore road and the interior lines of the New York, New Haven & Hartford Railroad, rapid mobilization can be effected. With due preparation the expeditious moving of 75,000 to 100,000 men in Connecticut, Rhode Island and Massachusetts could be concentrated at any point. We have found that on gala occasions 75,000 to 80,000 people congregate to see a football game or a baseball game at New Haven or Boston and the railroads have facilities for assembling them and returning them to their homes within twelve hours. What can be done for profit can certainly be done for patriotism. In assembling for the protection of the New England States the naval reserve would at once mobilize at the ports assigned by the navy. New London, Newport, Boston, Portsmouth, are points where the United States has naval stations and important military material. All industrial plants and all lines of communication, including steam railways, trolley lines, canals

and important highways, would be put under patrol. The Cape Cod Canal, the short cut from Massachusetts Bay to Long Island Sound, and which eliminates the outside route from Boston to New York, is a vital link in the military plans and should be properly protected. It would give immediate access to Massachusetts Bay for naval vessels going to the defense of Boston, Portsmouth and the Maine coast, and drawn from Long Island Sound and New York harbor.

Immediately upon the approach of enemy forces the New England territory should be put under martial law and enemy aliens and sympathizers interned and enemy ships and merchandise seized. All of New England should be put on its guard to repel aerial attack and the use of defensive airships and anti-aircraft guns be resorted to. This emphasizes the importance of at once organizing aviation and anti-aircraft gun crews with the same spirit that the volunteer fire service is maintained and that the militia is organized. No town, village or city should be without its adequate quota of airships and anti-aircraft guns. With the mobility of the airship borders cease to exist as a barrier, and any point is vulnerable unless protected.

A brief summary of the cardinal steps that should be taken in the defense of New England include:

First, call to arms and proclamations by the Governors of the States declaring that a state of war embracing an actual attack, exists.

Second, assembling of regular army forces, militia and volunteer forces at rallying stations.

Third, mobilization of transportation facilities to

move forces to the posts assigned by the high military authorities.

Fourth, collection of supplies and munitions in accordance with prearranged plans and their despatch to army depots.

Fifth, substitution of alternates in the positions vacated by civilians answering the call to arms.

Sixth, establishment of battle-formation for army and navy forces of the United States acting in conjunction with volunteers at threatened points.

Seventh, co-ordination of civil governments with the United States in all departments.

Eighth, segregation of enemy aliens to be effected by the police and constabulary forces.

Ninth, enrollment of male civilians and women auxiliaries for hospital, police and transportation service in proportion to the urgency of the situation.

Tenth, commandeering of public utilities, including railways, telegraph, telephone, wireless and other public service facilities.

Eleventh, issuance of emergency currency for public works to provide work for unemployed on state and national developments.

Twelfth, house to house canvass by special officers, boy scouts and girl auxiliaries for collection of information as to seditious acts and evidence of foreign espionage.

By the plan which the army and navy has tentatively discussed and which belligerents abroad are using to protect their coast, our defense of New England should include the operation of scout ships, ob-

servation hydro-aeroplanes and submarines acting off the Atlantic coast. This first line should be strengthened by cruisers and the final defense embodied in as strong a unit in battleships and armed cruisers as can be assembled. For New England, Boston should be made the battle zone headquarters of the United States army, navy and the other armed forces and a council of war should include the commander of the army department, the ranking admiral in charge of the North Atlantic squadron or his representative, Governors of the six New England States and New York, as the eastern end of Long Island is within the New England war zone. This body, acting in concert, would harmonize all movements and bring the fullest military forces to bear.

It is not by having the several States go through individual war drills and manoeuvres that an effective defense can be created against a formidable enemy. The same co-ordination is needed for the defense of our coast at any spot against invasion as has been found requisite in the theatres of war throughout Europe.

CHAPTER XLIX.

WAR PLAN FOR NEW YORK.

In considering the war plan for the protection of New York City and its surrounding territory it must be appreciated that the port of New York represents the greatest concentrated evidence of wealth in the world. This port is the greatest point for clearance of ships with goods for export and is the greatest port of entry in the United States. Within a radius of 75 miles of City Hall there are over 7,000,000 people who depend for their existence upon New York and its business activities. An enemy succeeding in capturing or destroying New York would deal this nation a terrific, if not fatal, blow.

There are natural advantages in the situation of New York which make its defense easier than that of many other coast cities. It is accessible from the sea only by narrow ship channels and these are susceptible of immediate protection by means of torpedoes, mines and nets, supplanting strong shore batteries. Such defense is not sufficient to repel an enemy in force, but prevents the surreptitious entrance of submarines or surface craft to do raiding or desultory damage. By access through Long Island Sound armed vessels of an enemy could approach New York from the East, but this is a hazardous course and the United States navy is fully competent to cope against its successful

accomplishment. The entire area of Long Island is susceptible of being turned into a formidable armed camp from Montauk Point to Brooklyn. Its flat topography and general sandy soil make trench construction easy. The Great South Bay and its tributaries with the numerous inlets make defensive operations easy for light draught vessels, such as submarine chasers. The various inlets on the south shore of Long Island should be developed to sufficient depth by the United States government to afford access to the ocean on all tides. The great protective patrol of New York should be represented by a line of scout cruisers moving from Montauk Point to a point off Delaware Bay. Accompanying these should be aeroplane scouts, throwing out a still further line of observation.

At the port of New York a sufficiently strong naval unit should be established, so that upon sighting an enemy the American ships could put to sea and engage the enemy in a high sea action. Our shore batteries on Long Island, Staten Island and at Sandy Hook should be depended upon to repel the invasion of ships approaching our shores with the object of passing into the Lower Bay.

The object of a high sea fleet is to destroy the enemy and to prevent the landing of either marines or an army contingent. The many newspaper and magazine plans which have been described as feasible, for a foreign foe to land an army of several hundred thousand on Long Island or New Jersey and move upon New York, are fantastic, but are not beyond the realms of possibility. The surest way to prevent any foreign nation from attempting to carry out such an

ambitious undertaking is to have our coast protected by a formidable navy and an alert coast patrol, backed by an adequate armed land force.

In the New York territory 500,000 men, representing regulars, militia, naval reserve, volunteers and American Minute Men, should be available and concentrated at points ranging from Cape May to Montauk Point, and including a partial mobilization of New England forces from Massachusetts, Rhode Island and Connecticut. The railway facilities of New Jersey, Long Island and the New England States guarantee the quick concentration of forces. On a call for the defense of New York the entire armed establishments of New York State should be mobilized and held in readiness throughout the State to move on New York City if needed. The twelve consecutive steps that were described in the defense of the New England coast apply equally in the case of New York or any other point of coast attack. These embrace the proper sequence for orderly assembling of armed forces and for the proper maintenance of civil government.

The three points of attack most likely against New York would embrace an attempted landing on Long Island from Montauk to Rockaway Beach, or by rushing through Long Island Sound to effect a landing on the north shore. The second attack would be directed upon New York harbor with the object of demolishing our land batteries and bringing the battle to our navy. The third would involve an attempted landing along the Jersey coast for the purpose of flanking New York and menacing Philadelphia and the interior country. Against all three of these attacks vigilant airplane scouting and scout cruiser service is

our best reliance. Once apprised of the approach of an enemy and assured of the direction of the attack our plans for meeting the blow could be quickly formulated and given immediate effect by the co-ordination of the Governors of the States as heretofore described and the action in general council of the army and navy commanders with the executives of the States of New York, New Jersey, Massachusetts, Rhode Island, Connecticut, Delaware and Pennsylvania.

CHAPTER L.

WAR PLAN FOR GULF OF MEXICO.

It has been declared by the most expert observers in the world that the Mississippi Basin, which includes all the land between the western slope of the Appalachian Mountains and the eastern slope of the Rocky Mountains, is the richest and most valuable territory in the world. With this in view it can be stated that nothing is of more vital importance to the United States than to protect this territory. The great bulk of our population lives and prospers within this zone. The war plan for the defense of the Gulf of Mexico is the most direct and important consideration in the defense of the Mississippi Basin. Armies to invade it from the east must cross the Appalachian Mountains, and it is inconceivable that a rush could be made from the Pacific coast that would carry armies over the Sierra Nevada Mountains, across the great stretch between these mountains and the Rockies and accomplish the still harder task of crossing the Rocky Mountains to invade the Mississippi Valley territory from the west.

It is, therefore, important that the Government develop its Gulf of Mexico defense and have a war plan for operation there that will make the invasion of the territory practically impossible. The points of natural defense are the Straits of Florida, separating

Florida from Cuba, and which we would be able to defend by the same modern methods that England has used in closing the Straits of Dover.

Key West, Pensacola, Mobile, New Orleans and Galveston are other points of prime importance. The mouth of the Mississippi River under modern military and naval protection can be made impregnable. By closing the Channel of Yucatan, between the western point of Cuba and the peninsula of Yucatan, with a strong patrol and with adequate mine and submarine protection the Gulf of Mexico would be converted practically into a great protected sea, available for military action in much the same manner that Russia has used the Black Sea. Its accessibility to an enemy would be so hazardous that only furtive raids would be contemplated, provided the United States had its formidable navy and land contingents mobilized and on the aggressive.

If the enemy to be met succeeded in effecting a landing in Mexico or in securing the co-operation of Mexico as an ally were to attack, it would still be possible only after the demolition of our naval forces. In this circumstance the land defense along the Rio Grande and the borders of New Mexico, Arizona and California would have to be on a larger scale than is now being conducted to repress the Mexican rebellion and bandit raids. But the strength of the United States with its network of railroads at the back of the army would be greater than that of any force entering Mexico, which is poorly provided with railways and has no commensurate resources as compared to the United States.

The war plan for the Gulf of Mexico must include

the mobilization of the regular army and navy contingents and the State troops from Georgia, Mississippi, Florida, Louisiana, Texas and Alabama. If the military action brought against the gulf should develop to great intensity, final reserves could be brought from other States and army posts.

It would only be the result of a war that would arraign Great Britain as an enemy in which the United States would be in serious danger of losing control of the Gulf of Mexico and the use of the Panama Canal. As the relationship between the two great Anglo-Saxon nations is closer than ever before, and the objective for which they are warring is individual freedom, the likelihood of a break is so remote that it can be disregarded in our military plans.

All of the inhabitants of the Mississippi Basin would be benefited by having the Gulf of Mexico kept free and our export trade of grain, cotton and all other agricultural products safeguarded during the war. The transit of goods down the Mississippi and its tributaries and through all the other channels reaching the gulf coast would be continuous if the United States maintained control of the Straits of Florida and the Channel of Yucatan. Protection of the route through the Caribbean Sea to the Panama would be facilitated and access to the Panama assured by the presence of a dominant high sea naval unit operating from the safe havens of the Gulf of Mexico, Porto Rico, and our Virgin Islands, formerly the Danish West Indies.

CHAPTER LI.

WAR PLAN OF PACIFIC COAST.

Embracing a wider view than mere defensive operation, a war plan for the Pacific coast includes the assembling of an army of at least 500,000 men with San Francisco as a center. As every battle line has a center and a right and left flank, so an army of the United States distributed along the Pacific coast would have Seattle as its right flank and San Diego as its left flank and San Francisco as its natural center. It seems fortunate that these points constitute large seaport cities and industrial centers, and that they are accessible by three perfected transcontinental railway systems. The concentration of forces by our transcontinental roads and systems of connecting railways running north and south along the Pacific coast, through Washington, Oregon and California, makes possible the mobilization of large forces in quicker time than can be accomplished in almost any other country in the world with a comparable coast line.

The natural strength of San Francisco Bay makes it advisable to have this port developed into an impregnable military base both for the army and navy. The war plan on the Pacific should embrace the assembling of a naval battle unit sufficiently strong to carry war to an approaching invader. As on the Atlantic coast it has been shown that the greatest pro-

tection will be derived from having scout cruisers patrol the ocean at considerable distances off shore, and beyond these to have a patrol of hydro-aeroplanes, so on the Pacific the same plan is desirable. One patrol should run from San Diego to San Francisco and another from San Francisco to Seattle. Owing to the mountain barriers that separate the Mississippi Valley and east from the Pacific coast, the war plan should embrace having adequate mobilization camps, prison camps, supply stations, ammunition depots and horse and mule corrals located in California, Washington and Oregon. This would make the Pacific coast States practically independent in the matter of military supplies.

An offensive from the Pacific coast by the navy should be undertaken in conjunction with the movement of our naval forces from Honolulu and of a contingent force dispatched from the Panama, the Philippines, and from the station which should be established in Alaska. Thus an enemy attempting to invade the United States on the Pacific coast would be subject to attack from five directions. If our main sea fleet succeeded in defeating and scattering the enemy, its ultimate escape in detachments would be minimized or prevented. If embarrassed by serious defeat and dismemberment of its major units, a scattered enemy would find the ships of the United States cutting its lines of retreat west of the Philippines, south of Alaska and Seattle, north by ships from the Panama Canal and from all quarters on approaching the Hawaiian Islands. This is the advantage of having overseas possessions. It is what resulted when war was declared by Germany against Great Britain and her Allies. The

warships of Great Britain, Japan and France cleared the Pacific, the Atlantic, the Indian Ocean and the lesser seas throughout the world of German naval and merchant ships and have kept them practically swept clean of surface vessels for the past thirty-three months. It is such a comprehensive policy that the United States should consider in a war plan for the Pacific coast. Nothing short of a dominant fleet in the Pacific can assure the United States of safety for its mainland or of protection to its Pacific Ocean possessions.

CHAPTER LII.

WAR PLAN FOR THE HAWAIIAN ISLANDS.

When the United States acquired the Hawaiian Islands it was with the double purpose of having a possible territory from which to develop the sugar industry and to create a strong naval station midway between our Pacific coast and Asia. At that time we were not in possession of the Philippine Islands or Guam and did not expect to be created into a world power in the sense of having large foreign possessions. The war plan for the Hawaiian Islands now necessitates the concentration at this point of an army and navy unit of sufficient strength to be capable of defending the islands and also of instituting offensive war from them as a base. It is hardly conceivable that a formidable European enemy would attack the United States from the Pacific or make a drive against the Hawaiian Islands. Our danger centers rather from Asiatic nations seeking to expand eastward.

The possession of the Hawaiian Islands as a strong naval and military center would have the advantage of making the defense of the Philippine Islands an easier task than would be the case if the group of Hawaiian Islands were to pass into the control of an enemy. In dispatching ships with troops, stores and ammunition from the Pacific coast, by way of San Francisco or the Panama Canal, the Hawaiian Islands could be made a

port of call or a refuge in case of encountering superior forces, so its retention by the United States possesses the highest strategic value.

The Hawaiian Islands would also represent a first line of retreat from the Philippines in case our evacuation of the islands became necessary. In the matter of defending the Philippines, the quickest reserves that could be brought would be those from the Hawaiian Islands and the augmentation of the naval strength of the Philippine naval unit could also be drawn from ships on the Hawaiian station.

The land defenses in Hawaii should be brought up to the highest point of perfection, and no modern methods of land protection should be omitted. A strong contingent of the United States army and militia and naval reserve units could well be taken from the Pacific coast for intensive training in the Hawaiian Islands. This would give our citizen soldiers some experience in moving on transports and in operating in strange lands.

As to our naval forces in the Hawaiian Islands, they should be made strong enough to be a formidable menace to any enemy. Because of the great distance from our mainland, the naval station at Hawaii should have complete repair shops, dry-docks, floating dry-docks and all classes of repair ships and supplies available. While it would cost more money to transport raw material than for home delivery, it would be well worth while having some naval construction undertaken at this station so that men familiar with the details of such work would be available in case of urgent need. It was because Great Britain had carried out the policy of having naval repairs and naval con-

struction done in her distant stations that the great empire has been self-supporting in all of its dominions and that each has been able to contribute to the armies operating in Europe and to the navy holding control of the seas. This should be our pattern in developing our overseas possessions.

As our home munition plants, ordnance and ammunition plants create reserve supplies these should be transported to our distant possessions and held in reserve. The reason for this is that it will always be possible for the United States in its continental territory to resort to intensive production in case of emergency and the supplies of iron, copper and all other materials necessary are available. Quite the contrary would be the circumstances in the event of our being obliged to engage in a great war against strong alliances in the future. Then our stations at Alaska, the Philippines, Guam, Hawaiian Islands, Porto Rico and the Virgin Islands, if they were not fully fortified and amply stocked, would be subject to seizure. All of these distant possessions should be factors of strength and not of weakness to us in an emergency. This imposes upon us the necessity of fortifying Hawaii and making it impregnable.

CHAPTER LIII.

WAR PLAN FOR THE PHILIPPINE ISLANDS.

One of the most extensive groups of islands owned by a distant nation is that of the Philippines, which came into possession of the United States during the Spanish-American War, and which have been ours by treaty rights since 1898. These islands are situated off the mainland of Asia and separated from China by the China Sea and are distant but nine hundred miles from Japan. In consequence, the two largest and most potential nations that would be capable of assuming an aggressive attitude toward our retention of the Philippine Islands would be China and Japan. As there are no racial ties between the Filipinos and the Chinese or the Japanese, the only incentive that could lead either China or Japan to engage in war against the United States would be one arising from industrial conditions. At present this seems to be a remote probability. Great Britain would undoubtedly regard an aggressive move by China or Japan as disturbing the world's peace in the matter of distant possessions being held in safety by herself and European powers, and would discountenance an unprovoked attack upon the Philippines by either of the great Asiatic countries.

Our policy in administering government in the Philippines has been liberal and beneficial. We have brought peace and prosperity to the Filipinos and

have eradicated oppressive governmental rule such as existed under the Spanish and have held out to the natives the promise of ultimate freedom and opportunity to gain admission to our Union.

The war plan of the Philippines must embrace the development of a great naval and military base in Manila. At present this is a station of moderate strength, but with the resources of the United States to draw upon it should be created into a military center stronger than Port Arthur proved to be and capable of withstanding a siege of several years' duration.

The Bay of Manila lends itself to successful defense and the island of Luzon, on which Manila is located, is extensive enough and fertile enough to make the largest garrison independent in the matter of sustenance. The deposits of coal and many minerals make the Philippine Islands a great potential military asset.

With a generous percentage of the regular army of the United States acting with the Philippine scouts a force aggregating 150,000 men should constitute the land contingent and the navy force held on the Manila station should certainly include a complete naval unit and a navy yard capable of building vessels up to major ships, with their armament. Provision should also be made for the establishment of commercial ship yards for building mercantile vessels which would encourage residence in the Philippines of a large and competent body of workmen and mechanics.

In the arsenals in the Philippines heavy reserves should be kept so that upon urgent need forces could be transported to the islands and provided with ac-

coutrements upon their arrival. A reserve supply of this character, sufficient to equip 250,000 in an expeditionary force, should be a minimum.

Manila and its environing territory should be so protected as to be proof against siege or sea blockade for a period of at least two years, for within that time the full fighting force of the United States could be concentrated and a sufficient pressure brought to bear to relieve the islands.

With a complete naval unit available at Manila and with wireless communication between Manila, Honolulu and the United States, the dispatch of the Manila squadron to any desired point to thwart an enemy in any part of the Pacific would be possible. It is with such objects in view that England maintains her possessions in Asia, making Hong Kong a formidable center, supplementing her strongholds in India, Australia and New Zealand and island stations.

In place of having the Philippines the liability they are to this country they should be a source of strength. During our nineteen years' possession these things should have been accomplished, but our policy against national military preparedness has been a drawback. Now that we are determined as a nation to achieve adequate preparedness, appropriations in Congress for the strengthening of the Philippine defenses will undoubtedly be made. Among other requirements should be the establishment in the Philippines of powder factories capable of producing powder for the army and navy and for catering to the world-trade in the Orient for military and blasting powders. One of the greatest dangers in war is the transportation of

explosives and to have a local industry in the Philippines capable of supplying this essential would be most desirable. Another matter of prime importance is to have the cultivation of cotton undertaken in the Philippines if for no other reason than to safeguard an adequate supply to meet military requirements. When the Philippines can be brought to a point where they are producing 250,000 to 300,000 bales of cotton annually, a great military asset will be developed. With nine million people only semi-civilized a great creative and constructive work lies before the United States and one worthy of our national power and enterprise. The best way to guarantee that our efforts will not prove fruitless will be to educate the Filipinos and bring them into full citizenship as soon as they qualify. No nation will be moved to assail an independent, self-governing and capable island empire of nine millions supported by a country such as the United States with its one hundred and ten millions of people and its boundless wealth and power.

CHAPTER LIV.

WAR PLAN FOR ALASKA.

Since the purchase of Alaska from Russia in 1867 for the small sum of seven million dollars, or two cents an acre, the United States has found that its acquisition of five hundred thousand square miles of territory is one of its greatest potential assets. The territory was one of only minor interest when it was a seal-fishing station and it was not until gold was discovered that the rush to Alaska began. Following the Klondike days of 1897, and the discovery of the gold at Nome, another influx of prospectors occurred in Alaska. Since that time the great gold field in the Yukon across the Canadian line has developed. It is most accessible through Alaska, and this has brought other settlers to the territory. In prospecting for gold great deposits of copper have been found in Alaska and coal has been discovered in great quantities. American capital is now engaged in developing Alaska not as a mining section only, but from its agricultural and industrial angles.

All of this leads to the necessity of the United States properly defending its wonderfully rich and valuable possession. Because there is a stretch of territory between the northern continental limits of the United States and the southern extremity of Alaska represented by British Columbia, our coast line on

the Pacific is not continuous. The matter of defending Alaska, therefore, becomes one that must be considered as a detached possession and treated the same as Hawaii, the Philippines or any of our other insular possessions.

In Alaska the cities which have been established are not populous, and have not been fortified or made impregnable from assault by land or sea. Juneau, Nome and Sitka are the principal cities and none of these possess military strength. Because of the rigorous climate and the long winters it is certain that no land operations, representing an invading enemy army, would be carried on in the Alaska territory. The chief defense should be centered in a strong naval unit and the most desirable natural harbor in the territory should be created into a strong station.

Because of our close relationship with Great Britain it should be possible for our diplomats to negotiate an available treaty that would permit of the United States using the territorial waters of the British Columbia coast, including the Straits of Georgia, Queen Charlotte Sound and Heceta Strait. This would give us access to Alaska without the necessity of entering the open waters of the Pacific. Supplementing this should be the extension of our railroad systems north through British Columbia and into Alaska territory. By rail or water we would then have routes that could be properly protected against an enemy approaching the North American continent from the Pacific.

When the United States army is brought to its proper complement of officers and men a body of at least twenty-five thousand should be stationed at

points in Alaska and engaged in the constructive work of building proper defenses for the cities and river mouths. The Yukon river should be safeguarded as well as the Copper river. Cape Prince of Wales should be selected as a point on Behring's Strait to be created into a strong station so as to connect with Asia at East Cape, the nearest point of land in the Eastern Hemisphere approaching North America. In a treaty with Great Britain a reciprocal arrangement should be made by which unarmed forces of the United States would have the privilege of crossing British Columbia from Seattle to Sitka or Juneau.

In the readjustment that will be made as the result of the present world war nations that have vast contiguous territories, such as the United States and the Dominion of Canada, should safeguard themselves against a repetition of the present violations of international law by enemies and the repressive effect of treaties negotiated in past centuries and affecting obsolete customs. The protection of a continent must be safeguarded and not imperilled as is the case where technicalities in century-old treaties are given validity. By acquiring the privilege to move unarmed men across British territory we would have the advantage of equipping them upon their arrival in Alaska. If this wise policy were carried out of keeping adequate reserve of arms, munitions and accoutrements on the Alaska station this would be a great military advantage to the United States.

The war plan for Alaska must comprehend the presence of a strong naval unit which could repel an invader and which could be held in readiness to move to the assistance of any other Pacific coast territory

that was menaced. In view of the fact that our domain now embraces lands in the arctic, temperate and tropical zones, it is the course of wisdom to have the members of our army and navy transferred from different territories so as to become practised in the varying duties and requirements of war under radically different climatic conditions.

As part of the proper development of a plan of national preparedness, which is to continue and keep pace with the growth of the nation, our naval forces should make the passage from Alaska to the Atlantic by way of Cape Horn when no urgent call requires the quicker passage through the Panama Canal. This is made necessary by the fact that unless our naval officers and the captains of our transport and cargo vessels travel the perilous course through the Straits of Magellan and around Cape Horn, they will lose the skill and assurance which has always made American seamen famous. The easy way of going through the Panama Canal will serve the purpose of commercial enterprise, but the difficult course should be adopted by our navy except in practice passages through the Panama or in an emergency, as at present.

By taking the long course around South America and stopping at all ports of call our naval vessels would constantly be brought to the attention of South Americans and the power of the United States be graphically impressed. It has been England's sea power that has attracted trade and made the British flag familiar in every port of the world. Adopting this policy would be the best national educational plan that could be used and would accomplish much in furthering our export and import trade. Our grand

naval cruise on the Pacific each year should include making the passage via Cape Horn on a trip east to Buenos Aires, and on the return making the passage through the Straits of Magellan and stopping at South America west coast ports. On the reach north the grand sea fleet should cruise the waters of Behring Sea and return south, stopping at the naval stations on the Alaska coast.

It is only by preparation and drill that Alaska can be converted from the territorial military liability it is at present into a strong national means of defense and offense.

CHAPTER LV.

PRISON AND CONCENTRATION CAMPS.

From the outbreak of the world's war in August, 1914, it became apparent that the several nations in Europe would have to resort to extraordinary measures to protect themselves against the mendacious acts of aliens resident in their territory. Germany at once forcibly concentrated all Russians, French, Belgians and English in the empire and placed them in concentration camps. There had been no acts of violence done by any of these peoples, but German thoroughness took no chances. France acted with considerable promptness, but great damage was done in many cities by Germans and Austrians before a rigorous segregation was imposed. Great Britain, acting with the usual lethargy of a people accustomed to free institutions, did not segregate the Germans and Austrians in London and her other large cities and many acts of depredation occurred and the spy system of the Teutonic aliens was most active for months after war was declared. Finally the British authorities exercised the needed precaution and placed enemy aliens in concentration camps.

The problem of the European nations has since developed into one of unprecedented magnitude as war prisoners by the millions have been taken by both belligerents, and it is estimated that there are now

more than two million Teutonic prisoners in the hands of the Entente Allies and that the Teutonic Allies have over three million military captives, besides several hundred thousand alien non-combatants held captive.

The United States will have no such tremendous problem to solve in so far as alien military prisoners are concerned, because there is no likelihood of vast armies invading this country and falling captives. Our danger is to be found in the possible disloyalty of those who still permit the country of their nativity to obliterate their love and fidelity to the country of their adoption.

Our plans for prison camps and concentration camps should be so regulated that any aliens whom we are forced to put in concentration camps as a matter of precaution and against whom there has been no actual charge of violence or intrigue should not be thrown in contact with those who have been made prisoners for actual breaches of the peace and attacks upon the Government. In locating concentration or prison camps the same hygienic consideration should be given as in selecting sites for hospital camps. This country does not wish to have the onus rest upon it of not having given proper care to those who would be forced to go under restraint.

We have vast areas in the United States that can be selected for locating such camps and that would be susceptible of being improved by intensive cultivation or through drainage and irrigation work. While aliens were held as non-combatant prisoners in concentration camps or as prisoners for minor overt acts, the necessary suffering of their dependents could be greatly alleviated by giving willing workers a fair compensation for their labors. Those who showed a recalcitrant

attitude would be treated as undeserving prisoners and obliged to suffer the consequence of close prison confinement and the loss of their earning power. There is such a large number of aliens of Teutonic blood in the United States and the evidence is so preponderant that they would remain loyal to this country that no hasty, sweeping move will be made to collect them by hundreds of thousands in concentration camps throughout the United States. It would only be by the demonstration of a vicious attitude towards this country that the freedom of the great majority of such aliens will be interfered with in any military manner.

We have, however, as a solemn obligation to humanity and through respect for international law to make provision against any contingency that may arise from our war with Germany and her Allies.

In New York our first act since the declaration of war was to seize the interned merchant ships of the Teuton nations. We had no adequate accommodation for the thousand and more officers and sailors, and had to make use of Ellis Island, our Immigration Bureau. The same unpreparedness prevailed in other ports.

CHAPTER LVI.

PENSION PLAN FOR SOLDIERS, SAILORS AND THEIR DEPENDENTS.

As this nation is now the richest in actual possession of gold, in credits and in the productivity of its natural resources, its lands and its general industries, the necessity for making adequate provision for the soldiers and sailors who are called upon to defend the United States and fight its battles is transcendant. No red tape should interrupt the payment of pensions to the men who may be injured in fighting the battles of their country. It is even more necessary that provision should be made for the dependents of those who take up arms for the Republic. Our system of calling for volunteers and of enrolling the members of the State militia and naval reserve results in married men forming a large percentage of the forces that are enrolled in the army and navy. Men in the militia and naval reserve must be given adequate protection for their families and soldiers' allowances must be determined upon and paid to their families without months of delay and the consequent hardships that would be incurred.

As we have not adopted universal military training and the system, while now being considered, is not operative, it is clear that the great majority of those who will form the army and navy will represent men

who leave civil life to dedicate their efforts to the protection of the country. A narrow and parsimonious policy by Congress in the matter of arranging for pensions and for allowances for soldiers' dependents would be a disgrace to the United States.

Although the greatest strain has been put upon France, England and the other belligerents in the world war, they have provided funds for the support of women and children and the indigent male adults who have been left without resources through the volunteering or drafting of men for the armies and navies of all belligerents.

As supplementing any provision that the Federal government may take, State government and municipalities should move to augment the pittance which would be given the dependents of soldiers and sailors and by special appropriations increase the moneys to be paid while the natural bread winner is in the service of his country. No charity is involved in such an act, but a supreme duty would be properly met.

CHAPTER LVII.

PLAN FOR DEFENSE OF WASHINGTON, D. C.

In all discussions of national preparedness there has been little said regarding the protection of the capitol of the United States. Washington has had the experience of being sacked and the President and his official staff driven from the city by armed forces of Great Britain. This ignominious occurrence was a feature of the war of 1812. Following the Revolution it was the misfortune of the United States to lapse into a state of unpreparedness through the policy of pacifists and our military and navy equipment was allowed to retrograde until it was insufficient to meet the task of defending our Atlantic coast from invasion. Four years of desultory war, from 1812 to 1815, inclusive, was the penalty we paid for being unprepared for we gained no augmented powers or accessions of territory through the treaty that ended the war.

At the present time the United States is involved in a war which has greater potential dangers than did our second struggle against Great Britain. We are now fully familiar with the barbaric character of war that would be waged against the United States if the forces of the German Empire could be brought against us. No respect for international law would check the invader from the same character of crimes as have marked the conduct of the world war in which the

German arms have operated against France, Belgium, Great Britain, Servia, Poland, Russia and Roumania.

It is of paramount importance that Washington should be adequately defended. The first requisite is that a large and thoroughly competent aerial unit be established at the capitol and that every method of aircraft defense be established to protect the capitol, the White House, the public buildings and the navy yard. The approaches up the Potomac can be more readily defended than can the city from attack from the air.

At the present time our aerial equipment is not sufficient to furnish adequate protection to our coast cities, let alone to points in the interior. This is the condition which members of Congress, sitting in the halls of our national legislature, should be brought to consider. Their own lives and the destiny of the country depend upon proper defense for the seat of the national government.

With the swift movement of airships, which attain from 90 to 200 miles an hour speed, the aviation corps from Washington would be of prime assistance in protecting Norfolk, Newport News, Baltimore, Wilmington and even Philadelphia in emergency. In place of being a point of weakness Washington should be developed into the strongest military reserve base in this country.

With water facilities furnished by the Potomac and with adequate railroad accommodations centering upon Washington the concentration of troops on this point can be readily accomplished.

In the event of any large offensive engagement aimed at the Chesapeake, drafts upon Washington for

troops and naval forces would be the most natural to make and men could be brought into action quicker than from any other point except those immediately on the Chesapeake and its tributaries.

Let us take the necessary steps to make Washington safe from naval, land or aerial assault.

CHAPTER LVIII.

PLAN FOR PERMANENT WORLD PEACE.

Throughout the world the spirit of democracy is stirring nations that have long been held under the rule of autocracies. It is found that so repressed a nation as Russia can shuffle off the trappings of royalty and assume constitutional government with practically a bloodless revolution.

The same spirit of independence has worked for the emancipation of the half billion Chinese and all other nations that are engaged in the world war directly, or through the restrictions imposed on neutrals. All look to democracy as the solution of their troubles.

The plans that have been promulgated for the attainment of permanent world peace all contain the basic principle of representative government. The principle that is as old as mankind has been expressed in the words of Lincoln, when he described this country as dedicated to the idea of government of the people, for the people and by the people. The entrance of the United States into the world war has come as the culminating event to bring the entire world to an appreciation of the fact that consent of the governed is necessary in order to have a just government instituted for the protection and benefit of the people.

President Wilson voiced a broad propaganda in his address to the Senate of the United States, in which

he advocated the adoption of a world-wide Monroe Doctrine. By this he indicated that nations should abstain from seeking further territorial acquisition and control over alien peoples, without their consent and on the basis of capture by force of arms or cession through arbitrary treaties.

Before the United States was forced to enter the present conflict it had suffered the indignities of being regarded as a craven nation because of its devotion to the ideals of peace. The belligerents and many neutral nations thought that the United States would remain passive under any provocation and that peace at any price was the nation's motto rather than the immortal words, "Life, liberty and the pursuit of happiness." Events have shown that this country has been patient and forgiving and did not take up arms lightly, but as a last resort to save the honor of the country and for the perpetuation of our institutions.

It is now the unanimous intention of all those who speak with authority for the people to bring the United States into a position of full preparedness for the defense of the Republic and to make possible for this Government to aid in the complete suppression of Prussian militarism.

The basis of permanent peace which will come as the result of this war and which will end, not with peace without victory, but with peace through the vindication of the full rights of humanity, should be represented in a league of nations pledged and armed to maintain world peace.

The compact of prime nations which will be entered into at the conclusion of the present world war must include a plan for the consolidation not only of

the armed forces of the nation, but a complete consolidation of the indebtedness incurred in the conduct of the war. If this is not done it will impose a crushing burden upon the people of all lands and will retard the progress of the world for a century or more.

It would appear that as every nation has made lavish sacrifices in life and in property proportionate to its population and resources, the financial burden of the war should be apportioned on a pro rata basis. An issue of bonds for the grand total cost of the world's war, which it is estimated will approximate a hundred billion dollars, could be distributed among the nations of the world, including all those who had been belligerents as well as many who had remained neutral, and made the basis of international credit and exchange. These bonds should carry not more than three per cent. interest and a basis for their amortization should be adopted that would accomplish their full retirement within a period of fifty years following the first ten-year period from the date of the peace treaty.

American diplomacy can accomplish the greatest achievement that has ever been recorded if its voice in the world's peace conference can succeed in bringing all of the belligerents to a realization that justice must be the keynote of the terms of settlement.

Questions of personal indemnities for flagrant violations of international law should be considered separately from the terms upon which just peace can be concluded. The Entente Allies have a right to demand damages, and we, in joining them, give the full weight of our national strength to the principle that the exigencies of war do not justify inhuman acts on the high

sea or on land. Atrocities and the destruction of cities, the enslavement of peoples and all of the other brutalities that have been a part of the "war of frightfulness" as waged by Germany and her allies should be made the subject of distinct penalties in money, land and property. These forfeitures would not be in the light of an indemnity as a result of the war, but as punitive damages for the murders and ravages by the armed forces of the Teutonic Allies.

The question of settling territorial borders and the rehabilitation of nations according to their racial similarities and geographical positions forms the proper subject for the world's peace conference. As the United States does not enter the war for the purpose of extending its territorial acquisition, or for acquiring control of alien peoples, its voice in the world conference can be heard and will carry weight as the only one that would be prompted by absolutely impartial views.

In consolidating the armed forces of the world to form a Peace League, the basis of contribution would be in proportion to the existing tonnage and armament in the navy and the man-power in the army of each nation. So in the redistribution of the war indebtedness the proportion basis should carry and the defeated belligerents should be entered into the equation on the same basis as the Confederate States were brought back into the United States and the war debt of the Federal government became a national obligation and its payment falls pro rata upon all the States. The penalty for secession has been that the southern States have had to rebuild their own destroyed cities and countryside and have had to support their dependent soldiers and sailors.

So with the Teutonic Allies when they are finally defeated, their own obligations as represented by war loans and by the indebtedness incurred in the conduct of the war would be borne by them individually.

The debt representing the expenditure and the continuing obligations of the Entente Allies and the neutral nations affected by the war through destruction of neutral lives and property would be consolidated in the world war bonds. This total should be proportioned among all of the nations, including Germany, Austria, Turkey and Bulgaria, all bearing their proportionate share.

This would be the just penalty imposed upon them for their wanton rupture of world peace, and in addition to punitive damages for their inhuman methods of waging war.

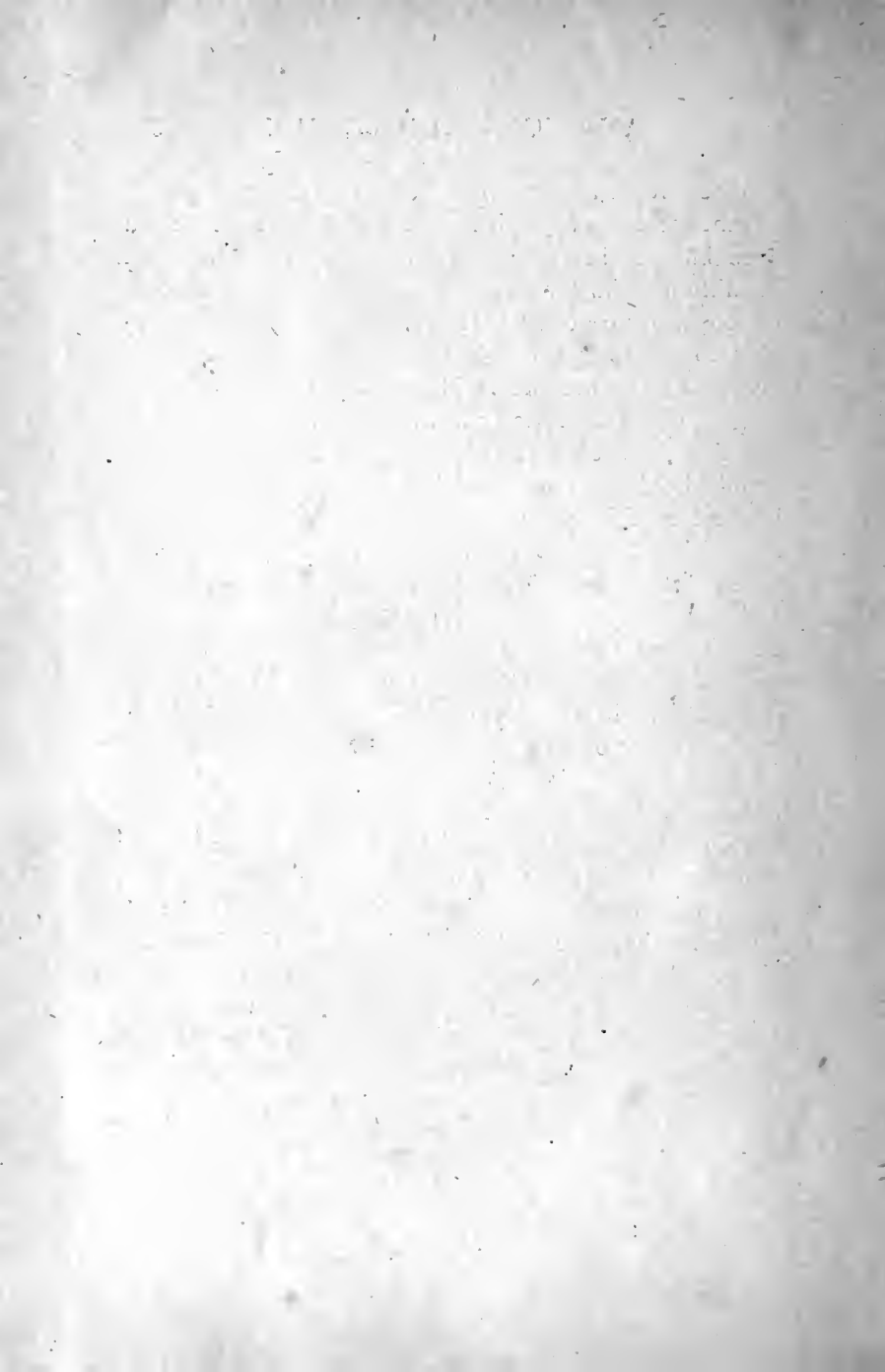
The joining of all of the prime nations of the world and the lesser peoples that have been crushed or injured would form a common bond and association which would make for the assurance of continued peace. It would help at once to restore world prosperity by relieving the peoples of all nations of the crushing necessity of paying high rates of interest on scores of billions of dollars and would create by one supreme act a real brotherhood of mankind.

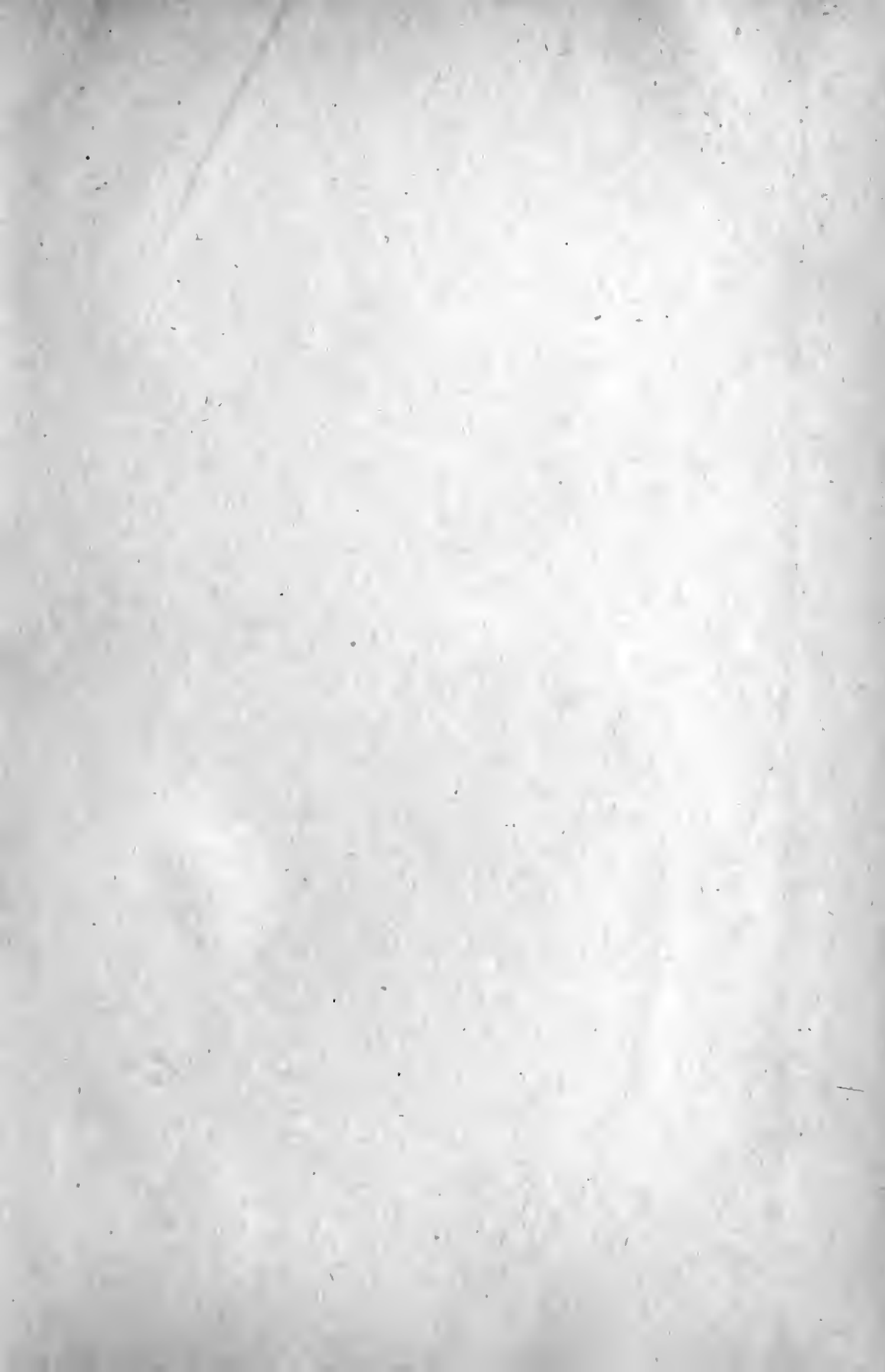
This would insure against the individual repudiation of debts by any nation and would give immediate impetus to commerce throughout the world. It would defeat the efforts of agitators in any land to create industrial revolution and would safeguard the vanquished as well as the victors from the ruinous period of a slow reconstruction. No plan which imposes crushing indemnities upon the workers of the world

can be counted on to bring about permanent peace. In the scales of justice that must be held at an even balance in the world conference the life blood of millions who have perished on the battlefields and of scores of millions who have been maimed and crippled for life must weigh heavier than the cold evidences of indebtedness. No money can restore the dead or give full capacity to the wounded.

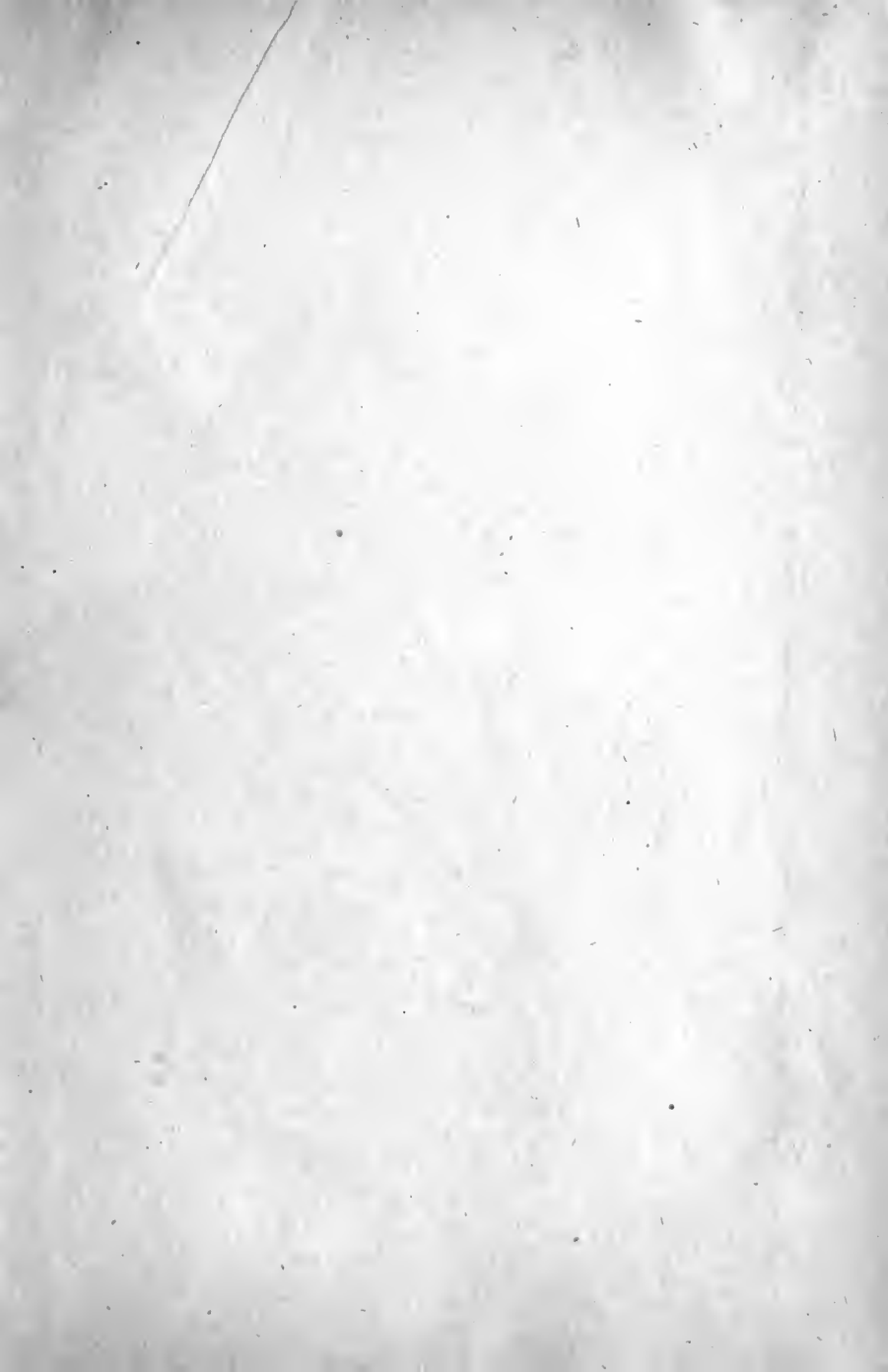
For the sacredness of national indebtedness there should be due regard, but the question of the rate of interest on this blood money should be settled on behalf of humanity. As nations have had the power to take 25, 50, 75 per cent. of the incomes of their peoples and to commandeer property and demand the service and lives of their peoples, so in the final settlement the consolidation of the total war indebtedness and its issuance in the form of world war bonds at a moderate rate of interest is a matter of supreme necessity and should be adopted by unanimous vote of those in the world peace conference.

This action and the existence of an international peace force will be the positive guarantees that the world has come from the furnace of war purified and reborn with peace and brotherhood as the fruits of victory.

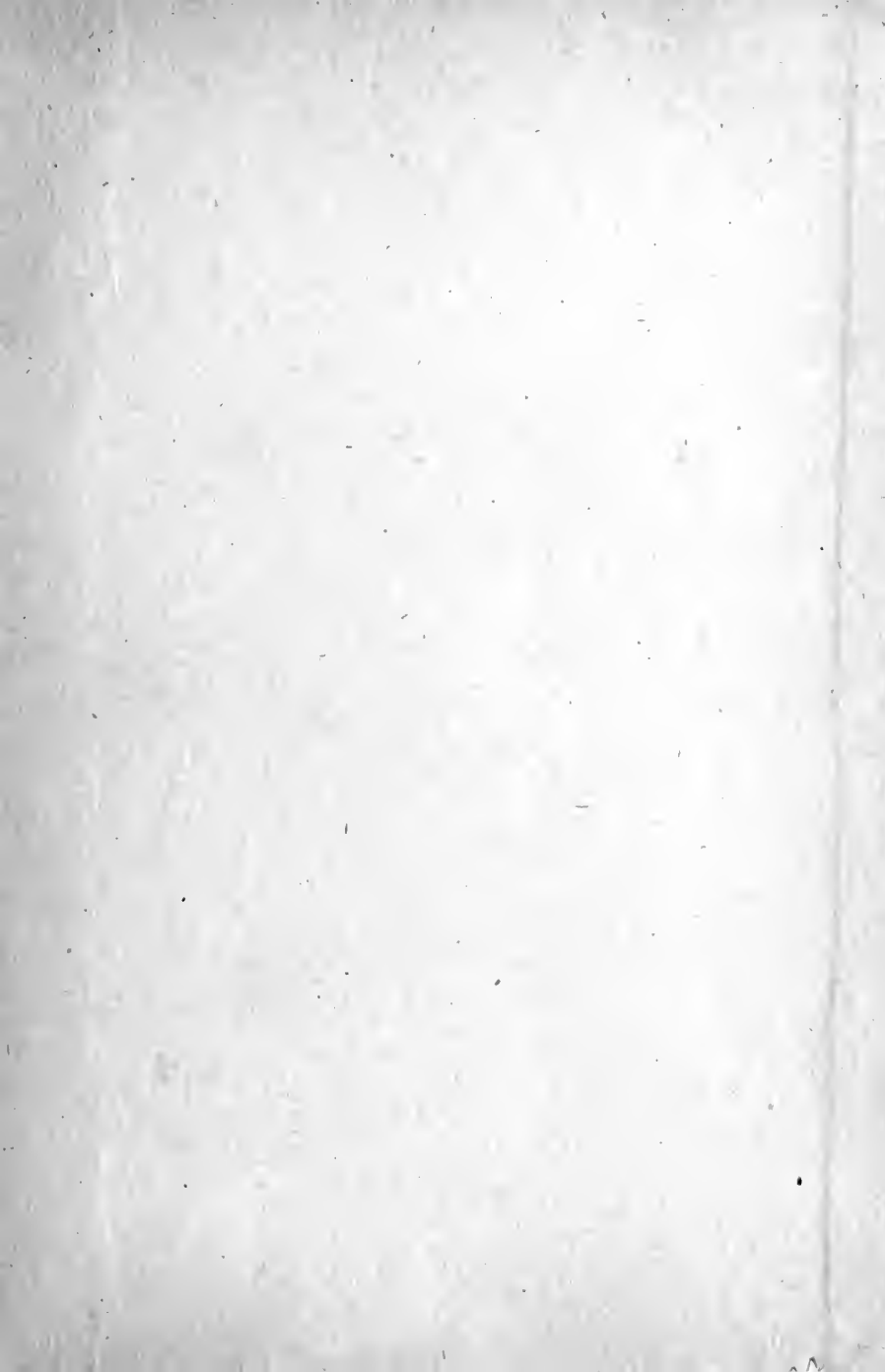












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